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OBSTETRIC PHYSICIAN, UNIVERSITY COLLEGE HOSPITAL.

LECTURE II.*

OVARIAN TUMOUR COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

TABLE D gives short particulars of all the cases I have seen except two: of these the first was a hospital patient who, although advised both before and during pregnancy to have an ovarian tumour removed, refused and was delivered without difficulty; on the third day of the puerperium the tumour (containing 31 pints of fluid) burst spontaneously, causing the death of the patient as soon as she reached the hospital.[1] The other case, the wife of a physician, had an ovarian tumour as big as a lemon. As it caused no trouble she was advised to await the occurrence of pregnancy. She had been married five years without conceiving. She became pregnant in 1918 and was delivered easily of a living child, and, as the tumour causes no inconvenience, she does not wish it to be removed just yet. In Table D, the column "Result of labour to child" gives the result of the labour preceding the ovariotomy in the patients operated on after delivery and following the ovariotomy in the patients operated on during pregnancy, as shown in brackets in the column "Date of ovariotomy."

Before proceeding to consider the question of treatment, it may be well to analyse the columns of the table.

Age of the patient.—The oldest patient was 43 (Case 30), the youngest 20 (Case 21), the average age was 30.

Number of children.—Nine of the patients were nulliparæ at the time the ovarian tumour was present. Three of these had multilocular cysts, one had a "parovarian" and an ovarian cyst, three had dermoids, two had ovarian fibroids.

The 55 patients had had 150 children, an average of nearly three, before the tumours were removed. Nine patients had had five or more children; one having had nine, and three having had ten children.

Number of abortions.—Thirty-three abortions had occurred before the ovariotomy in 48 patients; in 7 of the cases there is no record as to abortion. In Cases 29, 33, 42, and 47 abortions took place before the last child, and in Case 43 15 months before I saw the case, whereas four children had been born 14, 11, 8, and 6 years ago. Excluding these 7 cases, we find that the remaining 48 cases had 125 children and 33 abortions. We may suppose, therefore, that the 7 cases would have had about two abortions; this would give 35 abortions for the 55 cases. The proportion of abortions to childbirth would thus be 35 to 150.

Number of abortions in 40 cases not operated on during pregnancy.—Thirty-two abortions occurred amongst 33 patients not operated on during pregnancy. In the remaining 7 cases there is no record of the number of abortions; but in none of the 7 cases did abortion occur in the pregnancy preceding the ovariotomy. In only five of the 33 patients did abortion occur in the pregnancy preceding the ovariotomy, and about one case (Case 28) there is some doubt, the notes not recording *when* the abortion occurred. This gives an abortion-rate of at most 5 in 40 cases. If Case 28 were included the abortion-rate would be 4 in 39 cases, or, if Case 28 did not actually abort in the pregnancy preceding the ovariotomy, the rate would be 4 in 40 cases. In 5 out of 6 cases in which both ovaries were affected abortion did not occur; in the sixth case (Case 30) it is doubtful.

Number of abortions in 15 cases operated on during pregnancy.—Four of the cases aborted. Case 19 had bilateral dermoids removed at the twelfth week; Case 40 bilateral fibroids removed at the fifth week of pregnancy. Case 43 had hæmorrhage before the operation at the thirteenth week, when a large multilocular cyst was removed; the patient passed a mole 27 days afterwards. Case 47 had an acute twist of the pedicle of a parovarian cyst with hæmorrhage into the broad ligament; the tumour was removed at the thirteenth week of pregnancy two hours after the twist occurred. In 10 of the 15 cases operated on the pregnancy continued and living children were born, one dying shortly after birth. As three of the patients were operated on at term, when the question of abortion does not arise, the true abortion-rate for patients operated on before the child is viable is in this series 4 out of 12 cases.

NATURE AND CONDITION OF THE TUMOURS.

All the tumours were benign.

Cyst-adenomatous tumours were found in 33 cases; of these 22 were multilocular (in 2 cases papillomatous) and 11 unilocular; some of the latter may originally have been multilocular. The cyst-adenomatous tumours were mostly of large size; a few were small. The three ruptured tumours (Cases 32, 39, and 54) were multilocular cysts of large size. The two papillomatous tumours (Cases 13, 49) were also multilocular. Case 36 was complicated with hydrosalpinx and Case 28 with pyosalpinx and ovarian abscess.

Dermoid tumours were found in 15 cases. They were mostly small, not more than 10 to 12 cm. in their greatest diameter, the exceptions being Case 4, which contained 3 pints of pus, Case 42 (as big as an adult head), Case 53, which measured 16 cm. in its longest diameter, and Case 44, which was as big as the pregnant uterus at the sixth month, and contained pill-like balls of fat. In two of the cases the tumours were removed on both sides and in Case 38 a dermoid had been removed from the opposite side 13 years previously. Thus one-fifth of the dermoids were bilateral.

Ovarian fibroids were found in three cases: in Case 45 the tumour was small and contained pus; in Case 37 it was calcified, weighed 1 lb. 8 oz., blocked the pelvis, and was mistaken for a uterine fibroid before the operation. It was removed immediately after Cæsarean section. In Case 40 the tumours were bilateral, the right tumour weighed 3 lb. 8 oz., and was removed with the rest of the ovary; the left, an inch in diameter, was excised and the remains of the ovary stitched up. The patient had a living child next year (see "Proc. Roy. Soc. Med.," Obs. and Gyn. Section, Vol. II., p. 231).

"Parovarian" tumours were found in 6 cases. All except Case 2, which contained 10 pints, were of small size. In Case 51 a sub-fimbrial cyst on the left side was associated with an ovarian cyst on the right. In Case 48 the cyst was complicated by an inguinal hernia, operated on through the abdominal incision. In only 1 case (the only case in which the pedicle was twisted) was the corresponding ovary removed.

Torsion of the pedicle occurred in 18 cases—12 times in cyst-adenomatous tumours, five times in dermoid tumours, and once in "parovarian" tumours.

Rupture of the tumour occurred in 3 cases: Case 32 was ruptured, probably at labour, and removed a month later; Case 39 had been tapped at a lying-in hospital to relieve pressure; the tumour was removed during labour; Case 54 was admitted during labour with much free fluid in the abdomen. The diagnosis was made of ruptured ovarian cyst; it was removed 12 hours after labour and was found to be ruptured, but held 2 gallons of bloody fluid, some of which had escaped into the

* Lecture I. was published in THE LANCET of Feb. 21st, p. 411.

[1] Obstet. Soc Trans., vol. xliii., p. 224.

peritoneum. All these tumours were very large multilocular cysts. The largest ruptured ovarian tumour I have met with contained 31 pints of fluid. It burst on the third day after an easy labour. The patient had been advised, both before and during pregnancy, to have the tumour removed, but refused. She had been progressing favourably, but became collapsed when the cyst ruptured and was removed in an ambulance to hospital, but died of syncope immediately after her admission.[2] The wall of the cyst was very thin and looked as if it had been stretched.

Suppuration of the tumour was met with in 8 cases. In all cases the suppuration occurred after delivery. In Case 1 the tumour contained 2 gallons of fœtid pus, and the patient was very emaciated and feverish. In Case 4 the patient had been delivered with forceps (the child dying on the third day) and the tumour had been tapped twice, 10 pints of pus being evacuated. In Case 7 the pedicle was twisted. In Case 8 the tumour contained 15 pints of pus. In Case 12 the child was delivered (dead) with forceps; the tumour contained 26 oz. of pus. In Case 26 the tumour was small and did not become evident till the uterus had involuted. Case 28 was complicated, with an ovarian abscess and pyosalpinx on the other side. Case 45 was a small fibroid.

Six of the suppurating tumours were cyst-adenomatous, one was a fibroid, one (Case 4) was a dermoid; the infection in this case probably was caused by the tapping. The supposed proneness of dermoids to suppurate is due to an error of observation; the liquid fat at the temperature of the body looks very like pus to the naked eye. Examination with the microscope shows its nature. The fact is that dermoids very rarely suppurate. They are, no doubt, more prone to it as a result of labour, owing to the risk of injury when they are in the pelvis. Out of 59 dermoid tumours removed I have only met with suppuration in two cases besides the case mentioned above, and in one of them the tumour communicated with the sigmoid flexure of the colon; the other was published in the Medical Society's Transactions, Vol. XVII.

SEAT AND POSITION OF THE TUMOUR.

The tumour was situated in the right ovary in 23 cases, in the left ovary in 18 cases, in both ovaries in 8 cases, in the right parovarium in 4 cases, in the left parovarium in 1 case, in the left parovarium and in the right ovary in 1 case.

Incarceration of the tumour in the pelvis were met with in 5 cases[3] (Cases 21, 23, 24, 25, 37). In Case 21, who a year previously had had a dead child delivered by forceps, the tumour could not be pushed up during labour. Ovariotomy was performed, the uterus being withdrawn from the abdomen in order to permit extraction and removal of the tumour; the forceps was then applied while the uterus was outside the abdomen, and a living girl delivered who was quite well 21 years later; the mother had had nine children since the ovariotomy, and was also in good health. In Case 23 the tumour was pushed up during labour, the child delivered alive by forceps, and the tumour removed seven months later. The tumour had been present at the first labour and the first two children had been stillborn. In Case 24 the tumour, incarcerated in the pelvis at 4½ months, was pushed up and a living child was born normally at term; the tumour was removed a fortnight after delivery. After the tumour had been pushed up it occupied a position in the loin, and at term closely resembled a hydronephrosis, and might easily have been overlooked. A photograph taken at term shows little evidence of the tumour, and emphasises the importance of examination of the lumbar regions during pregnancy. In Case 25 the tumour was removed at the eighteenth week of pregnancy, and a living child was born at term. In Case 37, in which the tumour was mistaken for a *uterine* fibroid, Cæsarean section was performed, with a successful result to the mother and child.

[2] Ibid.

[3] The first 4 cases have been published in Obstet. Soc. Trans., vol. xl., pp. 14, 22, 259, 329, the fifth in Proc. Roy. Soc. Med., Obstet. and Gyn. Section, vol. ii., p. 232.

These five cases, of which four were dermoids, show the value of treating the obstructing tumour either by pushing it up out of the pelvis or removing it by operation. The danger of delivering the child while an ovarian tumour is in the pelvis is illustrated by a specimen exhibited before the Obstetrical Society in 1898, which was ruptured during version after an attempt at delivery by forceps, with a fatal result to the mother.[4] During the course of labour the reposition of the tumour is facilitated by putting the patient in the Trendelenburg position under chloroform anæsthesia (Bossi),[5] a procedure which should always be tried before resorting to abdominal section.

If it is found to be impossible to push up the tumour, the uterus should be withdrawn from the abdomen through a 6-inch incision, which is quite long enough if the uterus be brought out cornerwise. If the child be in good condition the tumours may be removed, and the child delivered by forceps; but, if the child's heart-sounds are slowed or weak, the child should be delivered as soon as the tumour has been pulled out of the pelvis and before it is removed; thus the child will be spared some minutes of anæsthesia. It is of great importance that the cervical canal should be dilated before operation for the removal of the tumour, otherwise it may be necessary, after removing the tumour, to close the abdomen, which is done with difficulty, owing to the tension of the abdominal wall. In delivering the child at the end of the first stage it is not necessary to replace the uterus in the abdomen; the forceps may be applied (if possible, by a second operator), while the uterus lies on the abdominal wall (Case 21). If the cervical canal is not dilated the tumour should be pushed up with the patient in the Trendelenburg position, and the tumour removed at a later stage of labour or after delivery.

ADHESIONS OF THE TUMOUR.

Adhesions were found in 26 cases. The adhesions were all around the tumour in 4, to the abdominal wall in 14, to the omentum in 13, to intestine in 7, to the pelvis in 5, to the broad ligament in 4, to the uterus in 3, to the bladder in 2 cases. All the suppurating cases were adherent. Six of the 18 tumours with twisted pedicle had adhesions. Case 10 had a large cyst (8½ pints); Case 16 had been tapped; Case 21 had been delivered of a dead child, and the tumour was probably bruised. Cases 27 and 30 also had large cysts, while in Case 31 the tumour was as big as a coconut. In Cases 32 and 39 the cyst was ruptured. Case 44 had a large dermoid. Dermoid tumours, with pedicles not twisted, were free from adhesions except in two cases (21, 44).

GROWTH OF THE TUMOUR DURING PREGNANCY OR PUERPERIUM.

There does not appear to be any evidence in these cases of specially rapid growth of the tumour during pregnancy. Fifteen of the tumours were dermoids, which usually grow slowly and do not attain a size which enables the growth to be easily observed, at least by the patient. In Case 19 the left-side dermoid grew in three months from the (estimated) size of a hen's egg to the size of 8·5 × 7·5 × 6 cm.; in Case 53, the dermoid tumour at the third month of pregnancy of the size of a hen's egg measured 16 × 10 × 8·7 cm. nine months later. It must be remembered that the growth of ovarian tumours, apart from pregnancy, is often rapid. In Case 54 the growth was sudden and rapid, and the cyst ruptured during labour; it contained 2 gallons of bloody fluid, and was removed 12 hours after delivery. In Case 39 the tumour grew so fast that it had been tapped in a lying-in hospital to relieve pressure. These cases of rapid growth are, however, exceptional, and, on the whole, it appears that pregnancy exercises no special influence in increasing the rate of growth, the evidence pointing usually in the opposite direction.

In the puerperium there seems to be a greater tendency to a rapid growth. Case 7 is especially interesting from the fact that the tumour *diminished*

[4] Obstet. Soc. Trans., vol. xl., p. 331.

[5] La Gynécologie, 1900.

greatly during ten weeks' observation in the hospital: the patient was also suffering from pleural effusion of tuberculous origin. A large suppurating ovarian cyst, extending high up into the abdomen, gradually got smaller, until, at the time of its removal, it was of the size of a fist. At the operation adhesions to the omentum, abdominal wall, and intestines were found to encapsule the tumour, and no doubt the vessels in these adhesions had absorbed some of the fluid in the cyst, thus leading to the remarkable reduction in size. The patient recovered well from the operation, and also eventually from the pulmonary phthisis; she was examined by me and found to be in fairly good health 27 years later.

RESULT OF THE OVARIOTOMIES.

Fifty-five ovariotomies were performed, of which one patient died (Case 14); the tumour was a dermoid. The patient had been delivered eight months before the operation, and had noticed abdominal pain five months after the confinement. There were no adhesions. The pedicle was not twisted at the time of the operation, but the Fallopian tube was almost divided, possibly as the result of a twist which had become undone. After the operation intestinal obstruction was caused by the adhesion of a coil of small intestine to the stump of the ovariotomy pedicle. The abdomen was opened and the coil separated, but the patient succumbed.

Result of the 15 ovariotomies performed during pregnancy.—Twelve of the cases were operated on in the first half of pregnancy—viz., at the 14th, 11th, 11th, 12th, 18th, 15th, 18th, 5th, 10th, 13th, 13th, 11th week. Cases 21[6] and 39[7] were operated on during labour; Case 37[8] immediately after Cæsarean section at term. In Cases 15 and 18 labour was induced on account of contracted pelvis. All the mothers recovered. The children (in Case 3 twins) were born alive in 11 cases, but in Case 33 the child died soon after birth; four patients aborted; thus, in 5 out of 15 cases the child was lost.

Result in four other cases seen during pregnancy, operated on after delivery.—Case 2 was seen in labour; a unilocular cyst containing 10 pints was present. The patient was delivered with forceps and made a good recovery; the tumour was removed eight months later. In Case 23 the tumour was incarcerated in the pelvis during labour, the cord prolapsed, the fœtal pulse-rate was 30; the tumour was pushed up out of the pelvis, and the child delivered alive with forceps. The tumour was removed eight months later.[9] In Case 24 the tumour was incarcerated in the pelvis and was pushed up into the abdomen at four and a half months; during the second half of the pregnancy the tumour caused no trouble. A living child was born at term and the tumour was removed 15 days later.[10] Of Case 54 the particulars have been given under the heading "Rupture of the Tumour." In these 4 cases the mothers recovered and the children survived. Thus, of the 19 cases seen by the author during pregnancy all the mothers recovered; and in 15 the children were born alive and in 14 survived.

Result of the pregnancies in the 40 cases not operated on during pregnancy.—All the mothers recovered from the labour or abortion. In 29 cases (out of 37 in which the fate of the child is given) the child was born alive; in 4 cases the child died as a result of difficult delivery by forceps or version (Cases 4, 9, 12, 50). In 4 (possibly in 5) out of the 40 cases abortion occurred (Cases 20, 36, 45, 51). The mortality rate for the children is 8 out of 37.

THE OVARIOTOMY.

The ovariotomy incision was made in or near the middle line, usually through the inner edge of the left rectus muscle. In Cases 46 and 51 the transverse Pfannenstiel incision was made: this incision lessens the exposure of the intestine and the risk of hernia subsequently, but may entail more manipulation; it is only exceptionally suitable for cases operated on during pregnancy. Silk was used exclusively for ligatures and buried sutures. Drainage was employed in three cases (Cases 10, 26, 30). The pedicle was tied with interlocking silk ligatures and stitched over with fine silk. In the later cases isolated ligatures were also placed on the ovarian artery, as first practised by Burd in 1846.[11] The advisability of this practice is shown by Laroyenne's case,[12] in which a patient died in the second month of pregnancy from hæmorrhage from slipping of the ordinary ligature applied at an ovariotomy three months previously; at the autopsy the two ends of the artery were found gaping, the growing uterus having displaced the ligature by stretching the broad ligament. Fehling[13] also lost a patient from the same cause; the lower pains, which began on the day following an abdominal ovariotomy near term, after two hours caused the ligature to slip and led to intraperitoneal hæmorrhage, for which the abdomen was opened and the pedicle again tied, but too late to save the patient.

ÆTIOLOGY.

The question of the influence of pregnancy in causing malignant changes in ovarian tumours has been discussed by Sir John Williams in his Cavendish Lecture. He showed that there was no evidence of such influence. In support of this opinion is the fact that malignant ovarian tumours are rarely found in pregnancy; in my 55 cases there was not an instance, whereas, apart from pregnancy, malignancy is met with in more than 20 per cent. of ovarian tumours. It is noteworthy that in advanced age, in women over 70 years of age, malignant ovarian tumours are also rare. The cause of this rarity cannot at present be stated.

Sir John Williams also discussed the influence of pregnancy and sterility in the causation of ovarian tumours, and came to the conclusion that sterility favours their production. The question is admittedly difficult to decide from consideration of the material available. In comparing Spencer Wells's figures of ovariotomy with the figures of the 1891 Census Report, Sir John Williams assumes that the married women were mothers and the single not mothers, while pointing out that the assumption may not be quite accurate. As married women who are childless are much commoner than single women who are mothers, I think his conclusion as to the effect of sterility in causing ovarian tumours may not be justified.

The only evidence I can offer on this interesting subject is too small to be of much value. Of 8 cases of ovariotomy which I have performed on women over 70 years of age, 7 were married and had been pregnant, and 1 was a virgin. The Registrar-General's Report for 1891 shows the proportion of married to single, in those over 65, to be about 89 to 11, and, if we allow one childless marriage in ten, the proportion of pregnant women to sterile would correspond so closely with the proportion in my cases as to suggest that sterility has not the influence which Sir John Williams's statistical investigations of Spencer Wells's cases would seem to show. But I think the question cannot be answered until we know the frequency of ovarian tumours in large numbers of virgins.

SYMPTOMS.

Many patients go through pregnancy without any symptoms arising from the presence of an ovarian tumour if it is small and does not block the pelvis or become twisted or inflamed. The only way in which such tumours can be diagnosed is by routine examination of the abdomen and pelvis during pregnancy, which ought to be carried out in every case. In advanced pregnancy it is important to examine the lumbar regions, as small tumours may easily escape notice or may be mistaken for renal tumours.

Tumours which are large give rise to feelings of weight and pressure. When the tumour becomes inflamed or strangulated by twisting of its pedicle the

[6] Obstet. Soc. Trans., vol. xl., p. 14.
[7] Obstet. Soc. Trans., vol. xlviii., p. 37.
[8] Proc. Roy. Soc. Med., Obstet. and Gyn. Section, vol. ii., p. 232.
[9] Obstet. Soc. Trans., vol. xl., p. 22.
[10] Obstet. Soc. Trans., vol. xl., p. 259.
[11] Med. Chir. Trans., 1847, vol. xxx., p. 98.
[12] Congrès période, internat. de gynéc. et d'obstet, Genève (1896), 1897, ii., p. 125.
[13] Quoted by Criwitz, "Geburtshindernis durch Ovarialtumoren," Inaug. Diss., 1902.

TABLE D.—*Ovarian Tumours Complicating Pregnancy, Labour, and the Puerperium—Table of Ovariotomies.*

Case.	Initial.	Age.	Children.	Abortion.	Time of discovery of tumour.	Seat of tumour.	Nature of tumour.	Result of labour to		Growth of tumour during pregnancy or puerperium.	Date of ovariotomy.	Adhesions.	Result.
								Mother.	Child.				
1	C.	32	1	0	By pt. 8 yr. ago; by dr. Aug., 1891.	l. o.	sup. m. c. (2 gal. pus).	R.	(?) L.	Slow before, marked after, delivery.	12/x/1891 lab./2/vii/91	All round tum.	R
2	J.	26	1	0	By pt. 2 yr. ago; by dr. 1 yr. ago; by me during lab.	l. p.	u. c. (10 pt.).	R.	L.; f.	Slow before, stationary after, delivery.	30/x/1891 lab./28/viii/91	None.	R
	H.	27	3	0	By dr. 1 mth. before op.	r. o.	m. c. (6 pt.); p. t.	R.	2 L.; v.	Probably slow.	16/ii/1892 (14 wk. preg.)	Abd. wall and om.	R
	B.	41	2	0	During preg. Tapped twice 3 wk. before adm. (10 pt. of pus).	r. o.	sup. d. (3 pt. pus); p.t.	R.	D.; f.	Steady increase after lab.	10/iii/1892 lab. 24/vi/91.	Universal.	R
5	P.	35	6	0	10 days after lab.	r. o.	m. c. size of uterus at term; p. t.	R.	(?) L.	Grew no larger but harder.	27/iii/1892 lab. 15/xii/91	Abd. wall, om., and intestine.	R
6	C.	31	1	0	After lab., 21 mth. before op.	r. & l. o.	l. m. c. size of 7 mth. uterus; small r. c.	R.	L.; f.	Very slight after lab.	19/iv/1892 lab. 28/xii/91	None.	R
7	T.	39	10 L.	5	10 days after lab.	r. o.	sup. m. c. size of fist; p. t.	R.	L.; v.	*Diminished* greatly during 10 wk. before op.	4/vi/1892	Intestine, om., and abd. wall.	R
8	J.	23	1	0	10 days after lab., 6 wk. ago.	r. o.	sup. c. (15 pt.).	R.	L.	Not known.	31/i/1893	Abd. wall and om.	R
9	H.	26	2	0	Shortly after lab.	r. & l. o.	d: r., size of walnut; l., size of swan's egg.	R.	D.	No increase noticed.	15/iv/1893 lab. 25/iii/92	None.	R
10	N.	36	4	5	2 yr. before.	r. o.	c. (8½ pt.) enucleated from broad lig.	R.	L.; b.	Slow before, rather rapid after, lab.	9/ix/1893 lab. 3/v/93	Abd. wall and pelvis.	R
11	H.	41	5	1	Sept., 1892, before preg.	r. o.	m. c. (6 pt. 4 oz. bloody fluid); p. t.	R.	L.	No increase before, rapid 14 days after delivery.	3/ii/1894 lab. vi/93	Om.	R †
12	H.	28	1	0	Just after lab., 3 mth. before op.	r. & l. o.	sup. c. (26 oz. fœtid pus on r. side; l. c. not sup.	R.	D.; f.	No increase since delivery.	29/xii/1894	Abd. wall.	R
13	S.	30	4	0	After lab. noticed swelling, tumour 1 mth. before adm.	r. o.	m. c. (11 pt. 6 oz.); papilloma inside.	R.	L.	Slow increase after lab.	21/v/1895 lab. xii/92	None.	R
14	G.	35	6	1	Lab. at 8 mth, pain after 5 mth.	r. o.	d. 11 × 10 × 7 cm.; p. t., but rectified.	R.	L.; v.	Probably stationary.	29/vi/1895	None.	D
15	H.	28	0	0	3 wk. before adm., during preg. (contr. pelvis).	l. o.	m. c., size of uterus at 5 mth; p. t.	R.	L.; v.; f.	Not known; labour induced.	23/x/1895 (11 wk. preg.)	Intestine, om., and abd. wall.	R
16	A.	27	0	0	In 3rd mth. of preg.; tapped by dr. 14 days after lab., 10 pt. rmvd.	r. o.	m. c., size of adult head, strong adhesions about puncture.	R.	L.; v.	Gradual throughout.	18/i/1896 lab. 10/viii/95	To abd. wall and om.	R
17	G.	29	3	0	Swelling noticed after lab.; inflam. 3 mth. later.	r. & l. o.	r. m. c., size of uterus at term; l. size of adult head; p. t.	R.	L.; v.	Gradual after labour.	2/iii/1896 lab. 28/v/95	None.	R
18	S.	30	7	0	During preg. (contr. pelvis).	r. o.	u. c., size of tangerine.	R.	L.; v.	No growth observed; labour induced.	20/vi/1896 (11 wk. preg.)	None.	R
19	W.	30	0	0	By me before preg. (contr. pelvis).	r. & l. o.	d.: r., 10·5 × 7·5 × 6 cm.; l., 8·5 × 7·5 × 6 cm.	R.	A.	l., size of hen's egg, 3 mth. before.	12/vii/1896 (12 wk. preg.)	None.	R
20	P.	26	2	2	Soon after A. (May 21st, 1896).	r. o.	d., size of double fist.	R.	A.	—	7/xii/1896	None.	R
21	G.	20	1 D.	0	After lab. (June 1st, 1896); by me during this lab.	r. o.	d., 11 × 10 × 9 cm.	R.	L.; v.	Probably none.	10/vii/1897 (during lab.)	Slight, to l. side of retro-uter. pouch.	R
22	G.	35	4	—	6 wk. after lab.	r. o.	m. c.; p. t.	R.	L.	—	10/xi/1897	None.	R
23	D.	32	2 D. 1 L.	—	By me during lab.; tum. incarcerated; f. Tum. pres. at first lab.	l. o.	d., 10 × 8·5 × 7 cm.; p. t.	R.	L.	None.	9/xii/1897 lab. 17/v/97	To rectum and post. pelvic wall.	R
24	M.	30	9	0	By me during preg., in pelvis; pushed up at 4½ mth.	l. o.	d., 12 × 9 × 6 cm., p. t.	R.	L.	None.	21/iii/1898 lab. 6/iii/98	None.	R
25	U.	22	2 L.	0	At last lab., 16 mth. before.	r. o.	d., 9 × 7·5 × 5 cm.	R.	L.	None, or very slow.	30/v/1898 (18 wk. preg.) lab. 29/x/98	None.	R
26	L.	23	1 L.	0	By me 3 wk. after deliv.	l. o.	sup. o. c., size of duck's egg.	R.	L.	Cont. fever till op.	7/xi/1899 lab. 6/viii/99	Uterus, om., intestine, broad lig., pelvic wall.	R
27	O.	39	10	—	Just after lab., prob. existed long before.	l. o.	c. (10½ in. above pubes).	R.	—	—	5/iv/1900 lab./xii/99	To om.	R
28	W.	27	2	1	Pain since first child (?) 2 yr. ago.	l. o.	l. sup. c.; r. o. abscess, pyosalpinx.	R.	(?) L.	—	5/vi/1900	Uterus, pelvis, and broad lig.	R
29	T.	22	1 L. 2 D.	2	1 mth. after lab. peritonitis; op.	l. o.	d. size of emu's egg; p. t.	R.	L.	Probably none.	29/vii/1900	To all parts around.	R
30	B.	43	2	1	(?) June, 1895, after lab.; patient chronic alcoholic.	r. & l. o.	Large l. m. c.; cystic r. o.	R.	—	—	17/xi/1900	To abd. wall and broad lig.	R
31	R.	23	1	—	2 or 3 mth. before op.	l. o.	m. c., size of coconut.	R.	(?) L.	—	29/i/1901	Abd. wall and broad lig.	R
32	A.	32	3	0	Probably before 2nd preg.; during 3rd preg. (normal deliv.).	r. o.	Ruptured m. c.	R.	L.	Rather rapid increase during last pregnancy.	4/iii/1902	Abd. wall and om.	R
33	F.	30	4	1	Early in this preg., but pain thrice during the last yr.	l. o.	o. c.; p. t.	R.	L.; d.; f.	None.	23/x/1902 (15 wk. preg.) lab. 24/iv/03	To om., blad., and intestine.	R
34	L.	31	2 L.	0	At first lab. 4½ yr. before.	l. o.	Large m. c. (over 22 pt.).	R.	L.	—	3/xii/1902 lab. 28/x/02	None.	R
35	K.	32	4 L.	1	Six wk. after lab. (midwife); tum. present during preg.	l. o.	m. c., size of coconut; p. t.	R.	L.	—	14/ii/1903 lab. 13/viii/02	To all parts around.	R
36	T.	25	2	4	After abortion.	r. o.	m. c. (7·5 × 6 × 5 cm.), with hydrosalpinx.	R.	A.	Probably none.	7/vi/1903	None.	R
37	G.	38	0	0	Before preg.; diag. as uterine fibroid.	l. o.	Calcified o. fibroid (13·5 × 12 × 9 cm.), 11 lb. 8 oz., incarcerated.	R.	L.	None.	28/xi/1903 (after Cæsarean section)	None.	R

TABLE D.—*Ovarian Tumours Complicating Pregnancy, Labour, and the Puerperium—Table of Ovariotomies.—(Continued).*

Case.	Initial.	Age.	Children.	Abortion.	Time of discovery of tumour.	Seat of tumour.	Nature of tumour.	Result of labour to		Growth of tumour during pregnancy or puerperium.	Date of ovariotomy.	Adhesions.	Result.
								Mother.	Child.				
38	G.	24	0	0	Early in present preg.	l. o.	d. (10 × 9 × 7 cm.), 10½ oz.; r. o. d. rmvd. 13 yr. before.	R.	L.	None.	13/vii/1905 (18 wk. preg.) lab. 13/xii/05	None.	R
39	H.	24	0	0	During preg. at a hospital (tapped!); during lab. at U. C. Hosp.	l. o.	m. c. (14 pt.), ruptured.	R.	L.	Filled up rapidly after tapping.	10/viii/1905 (during lab.)	Om. and abd. wall.	R
40	D.	26	0	0	Early in this preg.	r. & l. o.	Bilat. o. fibroids r. 3 lb. 8 oz. (18 × 15 × 11 cm.) L. (2·5 × 2·25 × 2 cm.), enucleated.	R.	A.	Probably none.	17/iii/1906 (5 wk. preg.)	None.	R
41	C.	21	0	0	Early in this preg.	r. o.	d. (9 × 6 × 4·5 cm.).	R.	L.	None.	10/iii/1908 (10 wk. preg.) lab. 7/viii/08	None.	R
42	S.	37	3	1	Since last preg. 7 yr. ago.	r. & l. o.	l. m. d. size of adult head, p. t.; r. o. simple c. size of hen's egg.	R.	—	Slow increase in size during 7 years.	14/xi/1908	None.	R
43	W.	36	4	1	During this preg. uterus retroverted and prolapsed, hæm.	r. o.	r. m. c. filling abd.	R.	A.	Apparently rapid increase during this pregnancy.	10/vi/1909 (13 wk. preg.)	None.	R
44	S.	42	10	2	At last lab.	l. o.	d. o. d., size of 6 mth. uterus; part ovary left.	R.	L.	Rather rapid increase lately.	30/iv/1910	To om. all over cyst.	R
45	B.	29	1	1	After A. at 10th wk.; 7 wk. before op.	r. o.	r. o. fibroid (4·5 × 3·2 × 2·5 cm.), covered with lymph sup.	R.	A.	Not noticed.	9/viii/1910	None.	R
46	K.	25	3	—	On Nov. 20th, 1910.	r. p.	r. p. c. (9 × 8·7 × 6·2 cm.), excised; neither o. rmvd.	R.	(?) L.	—	4/ii/1911 lab., 23/x/10	None.	R
47	J.	35	1	1	At 13th wk. of this preg.	r. p.	r. p. c., size of emu's egg, full of blood; p. t.	R.	A.	Not noticed; op. 2 hr. after p. t.; blood in broad lig.; r. o. rmvd.	26/iii/1911 (13th wk. preg.)	None.	R
48	L.	30	3	0	4 mth. after diff. occ.-post. delivery, prob. pres. then.	r. p.	r. p. c. (6·8 × 5·6 × 5 cm.); inguinal hernia; perineorrhaphy. Neither o. rmvd.	R.	L., 9¾ lb.	—	1/vi/1912 lab., 31/xii/11	None.	R
49	R.	22	1	0	During preg.; pt. constipated 1 wk.; T. 99·6, P. 140, before op.	r. o.	Large papillomatous o. c. 2 ins. above umb.; p. t.	R.	L., 8¼ lb.	—	31/x/1912 (11 wk. preg.) lab., 8/v/13	To abd. wall and om.	R
50	C.	29	3	—	After lab., April, 1913, tum. in pelvis; f.; version; dead child.	r. p.	r. bilocular p. c., size of double fist, enucleated; neither o. rmvd.	R.	D.	2 yr. before 11 lb. child delivered, no f.	19/vi/1913	None.	R
51	W.	36	0	1	At time of A. 1 mth. before op.	l. p., r. o.	l. sub-fimbrial c., size of hen's egg; r. o. c., size of small lemon, p. t.; l. o. not rmvd.	R.	A.	—	16/x/1913	None.	R
52	S.	24	1	—	16 days after norm. lab., fever and anæmia, but general condition good.	l. o.	u. o. c., p. t.	R.	L.	Not noticed.?	6/xi/1913	Strong to sigmoid, uterus, bladder and abd. wall.	R
53	D.	33	1	0	During preg.; delivered Feb. 4th, 1914.	r. o.	d. (16 × 10 × 8·7 cm.); small papillary growth excised surface of o.	R.	L.	Size of hen's egg at 3rd mth. of preg.	7/v/1914	None.	R
54	C.	30	3	0	During lab. (2¼ hrs.).	l. o.	Large m. c.; 2 galls. bloody contents; ruptured; rmvd. 12 hours after delivery.	R.	L.	Sudden rapid growth 1 mth.	29/i/1915 28/i/1915	None.	R
55	C.	32	5	2	1 mth. after lab. (tapped by doctor).	l. o.	Large m. c.; tarry contents.	R.	L.	Not noticed till after lab., when growth rapid.	27/ix/1917	None.	R

Index of abbreviations.—L., living. D., dead. sup., suppurating. r., right. l., left. o., ovary. p., parovarium. m. c., multilocular cyst. u. c., unilocular cyst. p. t., pedicle twisted. d., dermoids. A., aborted. v., vertex. f., forceps. om., omentum. b., breech.

N.B.—In Cases 1, 7, 8, 9, 11, 12 the mother's recovery (R) after labour was complicated—in Cases 1 and 8 by high fever and extreme emaciation, in Case 7 by pain after the first month; in Case 9 the mother was constantly ill after labour, and the child (cross birth, version) died 32 hours after; in Case 11 the mother had fever and a rigor, with peritonitis; and in Case 12 had fever and was bedridden, unable even to move her legs for four weeks. In Case 33 the child was born alive but soon died, and in Case 40 the mother recovered and subsequently had a living child in September, 1907.

symptoms are acute and may closely simulate strangulation or necrobiosis of a fibroid, acute appendicitis, or pyonephrosis. The symptoms of rupture will depend upon the nature of the contents; in some cases the accident scarcely gives rise to any other effect than alteration in the shape of the abdomen from the peritoneal effusion; in others shock, pain, and vomiting ensue. Malignant tumours are fortunately rare; they may cause emaciation and cachexia and are usually painful, though in some cases there are no symptoms which suggest malignant disease.

DIAGNOSIS.

The diagnosis of pregnancy complicated with ovarian tumour is usually not difficult. In some cases of early pregnancy, where the ovarian tumour is large or adherent, it may be difficult to make out the shape and consistence of the uterus. But in all cases where menstruation is delayed pregnancy should be suspected, and the colour of the vagina, the consistence of the uterus, and the appearance of the breasts should be investigated; the presence of morning vomiting may help in the diagnosis. In the early months the increased width of the uterus may be made out by examining the patient bimanually in the dorsal position with the fore and middle fingers of the right hand on each side of the cervix. In conducting this examination the greatest gentleness should be used; any forcible pressure may easily separate the ovum, an objection which applies to the so-called "Hegar's sign." In the second half of pregnancy the "certain signs" (heart-sounds, parts or movements of the child and ballottement), the contraction of the uterus, and the breast changes, usually render the diagnosis of pregnancy easy if care is employed; but hydramnios may render the detection of the fœtus difficult even when the patient is placed in the kneeling position which, causing the fœtus to fall to the most dependent part of the abdomen, renders its detection by ballottement easier. It is important to bear in mind the softness of the supra-

vaginal cervix—the physical condition which enables Hegar's sign to be obtained—which may cause the body to be apparently separate from the cervix and may, therefore, be mistaken for an ovarian tumour. Occasionally a lop-sided pregnant uterus is met with, which I have known taken for an extra-uterine tumour. If the uterus is very thin-walled—and sometimes it feels as thin as an ovarian cyst—the body, or a bulging portion of it, may be mistaken for an ovarian cyst if careless examination is made. Error is avoided by careful bimanual examination in the dorsal position, when under gentle manipulation the uterus will be felt to contract, to become one with the cervix and regular in shape.

In some cases of ectopic pregnancy a doubt may exist as to whether the enlarged uterus is pregnant or not and the tubal swelling is a mole, a hæmatocele, or an ovarian cyst; but the hæmorrhage which usually occurs in these cases will lead to an exploration of the uterus, which is found to be unimpregnated. The rare coexistence of intra-uterine and extra-uterine pregnancy must be borne in mind.

The recognition of the ovarian tumour is usually easy, as it ordinarily forms a cystic tumour movable apart from the uterus, on a pedicle which can sometimes be detected under anæsthesia. If the tumour is small it may easily escape notice in the lumbar region or may be mistaken for a tumour of the kidney or gall-bladder. Examination under anæsthesia facilitates the diagnosis in these cases. If the tumour is twisted and inflamed it sometimes closely simulates a necrobiotic or strangulated uterine fibroid. Under an anæsthetic its cystic character can usually be made out. Tumours of small size impacted in the pelvis often feel as hard as uterine fibroids, for which they may be mistaken. Rectal examination is of great value in these cases. It must be remembered that uterine fibroids may be as cystic as ovarian tumours, and, on the other hand, ovarian tumours may be solid, and are often associated with hydro-peritoneum, which is rarely found with uterine fibroids. In some cases the diagnosis cannot be made between these two conditions with certainty, though in a patient under 25 a uterine tumour is very unlikely to occur.

If the tumour be ruptured the symptoms will depend upon the nature of its contents. In some cases the accident is followed by few symptoms; in others shock, pain, vomiting, and peritonitis rapidly ensue. If the tumour be multilocular the unruptured portion of the cyst can be felt, and there are signs of free fluid in the abdomen. If the cyst be unilocular the only sign is the presence of free fluid in the peritoneum, which should always be suspected to be due to a ruptured cyst if there are no renal, hepatic, or cardiac causes present. Suppuration of ovarian cysts is indicated by high fever, wasting, tenderness, and occasionally tympanites; a history of tapping or injury during labour is often obtained. Twisted tumours usually give rise to local peritonitis and to fever which usually subsides after a few days; a considerable rise of temperature lasting some days after the acute peritonitis has subsided will usually indicate that suppuration has taken place. Malignant ovarian tumours are fortunately rare during pregnancy. They are usually solid, bilateral, and associated with hydroperitoneum and wasting; secondary nodules may be felt in the abdomen and in Douglas's pouch.

REMARKS ON TREATMENT.

The treatment of ovarian tumours apart from pregnancy is generally acknowledged to be removal as soon as practicable. When pregnancy exists the matter is not so simple; the interests of the child and the desirability of maintaining the fertility of the mother may justify a postponement of the operation. In the introductory remarks a case was mentioned where this was done. In another patient, from whom a dermoid was removed before the occurrence of pregnancy, the other ovary was found to be cystic, but was not removed, as the patient was childless, with the result that in this case also the patient has since had a living child. Case 38 is another illustration of the value of not removing a dermoid. On the other hand, in Case 19 the patient, pregnant for the first time, was operated on for bilateral dermoids at the twelfth week, aborted, and has, of course, remained childless. The tumours were causing no trouble, and were discovered during an examination on account of sterility a few months previously. Had the operation been postponed in all probability she would have had a child; as it was she aborted as a result of the operation.

I should like again to direct attention to the results to the child in this series, according as the operation was performed during pregnancy or after delivery. In cases operated on the infantile mortality was 1 in 3; the abortion-rate, 1 in 3 of the cases operated on in "early pregnancy." In those *not* operated upon during pregnancy, although sometimes unskilfully treated during labour, the infantile mortality was only about 1 in 5, and might have been reduced to 1 in 10 by more skilful treatment during labour; the abortion-rate was about 1 in 10. Five at least (possibly all) of the six cases of bilateral ovarian tumours unoperated on during pregnancy did not abort; both the cases of bilateral ovariotomy during pregnancy aborted. From these figures it appears that operation during pregnancy involves an increased risk to the child. The statistics, based on published cases, in McKerron's classical work, show that the risk of abortion is least in the early months of pregnancy. Although the risk to the child of operation during pregnancy should be taken in most cases, to prevent the grave consequences which may result to the mother from leaving the tumour till the end of pregnancy, yet in uncomplicated cases of small tumours giving rise to no symptoms in patients who are childless, and particularly when bilateral tumours are present, the operation should be postponed, at least until the child is viable.

The treatment of ovarian tumours complicating pregnancy, labour, and the puerperium has been by some writers considered too much from a surgical standpoint; the obstetrical aspect is not less important, and in some cases, as in No. 23, is the dominant factor. Amongst the 19 cases which I have personally treated during pregnancy there were three cases of contracted pelvis which necessitated induction of premature labour in two of the cases, and would have done so in the third had the patient not aborted. It is clear that a contracted pelvis may profoundly modify our treatment, and that an obstetric examination of the pelvis should be carefully made in every case. Then the existence of bilateral tumours in patients who have not had children may justify the postponement of the operation in the hope of obtaining a living child, and should lead us whenever possible to conserve some part of the ovary (Case 40).

The following scheme of treatment was published in 1909 (Trans. Amer. Gyn. Soc.). As I have not seen any reason for modifying it, I reproduce it here with slight verbal alterations.

SCHEME OF TREATMENT.

A. *During the First Half of Pregnancy.*

Ovarian tumours should be removed wherever their situation and whatever their size.

Exceptions.—The following tumours should not usually be removed: 1. Lutein cysts complicating hydatidiform mole; these often subside spontaneously. 2. Bilateral tumours causing no symptoms

if the patient is childless; or, if operated on, part of an ovary should be left behind. 3. Primary adherent malignant cysts. 4. Secondary malignant cysts.

B. *During the Second Half of Pregnancy.*

(*a*) All *large* ovarian tumours and ruptured, inflamed, and strangulated tumours should be immediately removed.

(*b*) Small tumours which are in the abdomen or which can be easily pushed up out of the pelvis in the knee-chest or Trendelenburg position should be watched, and, if no untoward symptoms arise, should be removed either at the end of pregnancy or towards the end of the first stage of labour or after delivery.

(*c*) Small tumours which are incarcerated in the pelvis and cannot easily be replaced in the abdomen may be watched and removed at the end of pregnancy, or, if circumstances will allow, towards the end of the first stage of labour. If the tumours are adherent or solid, Cæsarean section should be performed.

In all ovariotomies during pregnancy the vessels of the pedicle should be separately tied; the pedicle should be ligatured as far as possible from the uterus, and morphia should be given for the first two or three days after operation.

C. *During Labour.*

The best treatment is abdominal ovariotomy, immediate in the case of large tumours, at the end of the first stage or after delivery in the case of small tumours. When the operation is performed at the end of the first stage a second operator may deliver the child by forceps while the tumour is being removed. If the tumour be incarcerated in the pelvis and cannot be pushed up in the Trendelenburg position, the uterus should be withdrawn from the abdomen in order that the tumour may be dealt with.

For solid and adherent tumours occupying the pelvis Cæsarean section may be necessary. It should not be performed for cystic non-adherent tumours. When labour is advanced and a cystic tumour is impacted in the pelvis, the circumstances may render it advisable to deliver the patient by the natural passages after evacuating the contents of the tumour by incision and packing the cyst with gauze; but the tumour should, if practicable, be removed within 24 hours, preferably through an abdominal incision.

Vaginal ovariotomy may be performed in non-adherent cases; but, though simpler in technique, avoiding an abdominal scar and requiring fewer instruments, it is inferior to the abdominal operation in that there is greater danger from hæmorrhage, difficulty in safely tying the pedicle, the necessity of cutting up the tumour, the impossibility of examining the other ovary, and from the presence of the vaginal wound.

Induction of premature labour, forceps, version, and simple tapping of a cyst as means of overcoming the dystocia produced by ovarian tumour are absolutely contra-indicated.

D. *In the Puerperium.*

Ovarian tumours should be removed as soon as practicable, when possible within 24 hours of delivery. If there is doubt as to the aseptic condition of the uterus, a delay of a week or two may be advisable, unless indications of strangulation or infection of the tumour arise, when the tumour should be immediately removed.

INFLUENZA AS AN ÆTIOLOGICAL FACTOR IN NEPHRITIS.*

WITH AN ACCOUNT OF FOUR CASES OF POST-INFLUENZAL NEPHRITIS IN THE SAME FAMILY.

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THE appalling ravages of the pulmonary complications of the various influenzal epidemics have naturally tended to divert our attention from another less apparent, but by no means negligible one, nephritis, with which it is the purpose of this paper to deal. Although this complication is not followed by the shocking death-rate of pneumonia, yet in it lurks a serious menace to the future health of the community.

Description of Cases.

In the following series of cases nephritis focussed attention as a sequel in an extraordinary and unmistakable manner, no less than four cases being observed among the children of one family. This household consisted of the father and mother and eight children living in very poor circumstances. The father had a very severe attack of influenza in June, 1918, while the other members of the family were stricken by the malady in the epidemic of October, 1918.

CASE 1.—William, a boy of 11 years, had a typical attack of influenza. After a fortnight he seemed to have recovered, and for almost three weeks he was running about in his usual state of health. At the end of that time his mother noticed a swelling "around his eyes," and two days later this swelling was general over his whole body. He was then taken to the Mater Infirmorum Hospital. On admission to hospital general anasarca was present, the skin pitted on pressure over the whole body, the genitals being so swollen as to be almost translucent. His systolic blood pressure was raised to 135 mm. Hg, but there was no hypertrophy of the heart nor accentuation of his aortic second sound. He suffered from vomiting, anorexia, and constipation, lying in a drowsy, apathetic state, very foreign to his usual temperament, as we found out later. There were no retinal changes present. He still had marked bronchitis resulting from his influenza.

Urine: This boy had always suffered from incontinence, and so it was found impossible to measure accurately the output of urine, but it was evidently very scanty. It was laden with albumin; many epithelial, granular, and blood casts were present, also red blood corpuscles and leucocytes; the reaction was strongly acid.

Under the usual treatment his urinary output increased and his œdema quickly cleared up. His excretion of phenol-sulphone-phthalein, tested two days after admission, was 32 per cent. and the chloride concentration of his urine was high—1·3 per cent. His acute nephritis was evidently of the resolving type, as described by Keith and Thomson,[1] and a good prognosis was given. A few days later all traces of œdema had disappeared and his urine contained only a trace of albumin. When he left hospital, three weeks later, his urine was free from albumin and casts.

CASE 2.—Robina, aged 13, a rather undersized child for her years, worked in the preparing room of a mill on alternate days. She also had a severe attack of influenza during this epidemic, being confined to bed for 18 days. After four days' convalescence she returned to the mill.

* A paper read before the Ulster Medical Society.

Six days later she was admitted to hospital with marked puffiness under the eyelids and a marked pad of œdema over the sacral region.

Urine: She was passing on an average 10 oz. daily. Sp. gr. 1016. The reaction was strongly acid and the urine was laden with albumin; very numerous epithelial casts, blood, leucocytes, and kidney epithelial cells were found on microscopic examination.

On the second day after admission she developed a well-marked lobar pneumonia. Her blood, taken on this day, was found to contain 1·95 g. of urea per litre. There was complete retention of chlorides. Owing to her grave condition the excretion of phenol-sulphone-phthalein was not tried, as previous experience in war nephritis had shown that in the acute kidney this procedure was not entirely free from risk.[1] After three days' illness her temperature fell to normal and for the next seven days she improved rapidly; then, without warning, she had six uræmic fits in quick succession. In the intervals between the convulsions her systolic blood pressure was 125 mm. Hg. Her blood, taken at this time, showed that the urea was reduced to 0·33 g. per litre, and the chloride concentration was 1·6 per cent. As these figures showed that her kidneys were functioning well, despite her grave clinical condition, a good prognosis was given. The prognosis was justified, as 12 hours after her last fit her condition of hebetude cleared up, and the normal bright and intelligent disposition was regained.

The albumin in her urine, which up to this had oscillated around 1 g. per litre, began to decrease, and a fortnight later had entirely disappeared. She was allowed up, her urine being albumin-free, but after about three weeks albumin again reappeared in small amount, and on clinical examination at this time her heart was found enlarged; the apex beat was in the nipple line and a mitral systolic murmur was present. Her blood urea, however, only amounted to 0·42 g. per litre. When put back to bed and reduced to a milk diet, after a few days the albumin again disappeared and has remained absent ever since. The hypertrophy of her heart still persists, but no systolic murmur is now heard.

CASE 3.—Irene, aged 9 years, had a very slight attack of influenza. She was the first of the family noticed by her mother to have "become swollen," but the swelling only amounted to a slight puffiness of the lower lids, and occurred about three weeks after her influenzal attack. Since the swelling appeared the mother observed that the child was passing very little urine. On admission there was still present a slight puffiness of the face; the urine contained a trace of albumin, which persisted for almost a fortnight. No functional examination of the kidneys was undertaken.

CASE 4.—Annie, aged 4 years, had a similar history of influenza, followed by a period when she was thought to be quite well. Later, as in the other cases, œdema appeared, and was present on admission. In this case the presence of albumin was inconstant, although the urine contained many epithelial casts, a few blood and granular ones, red blood corpuscles, leucocytes and kidney epithelial cells. Her excretion of phenol-sulphone-phthalein in two hours was 40 per cent., and the chloride concentration of her urine was 1·04 per cent. On departure from hospital three weeks later her urine was normal.

Family Albuminuria: Survey of the Literature.

In all these cases a careful inquiry was made as to the possibility of renal trouble existing previous to the influenzal attack, but the suspicion was absolutely discountenanced in every case. Again, it was thought possible that the nephritis might be attributed to some drug—e.g., phenol (which was largely used in Belfast by the public as a prophylactic)—but no medicine of any description was given, except an entirely innocuous purgative mixture supplied by a neighbouring chemist. None of these children gave a history of scarlatina. A careful clinical examination failed to discover any signs of a recent attack of that disease, such as desquamation, rhinitis, or inflamed tonsils. It is quite possible that these children possessed a familial predisposition to renal disease, an intrinsic weakness of the kidneys, the extrinsic cause of the nephritis being supplied by the influenzal toxin.

This family weakness is also illustrated by an interesting series of four cases of acute nephritis of unknown origin in the same family reported by Benson[2] in 1893. One of the children, aged 12 months, developed general anasarca on April 6th, 1889, and died in uræmic convulsions on May 1st of same year. On April 26th, 1890, another child, aged 4, took ill, and albumin was found in the urine; dropsy appeared in the middle of 1891; this disappeared, but recurred again in the spring of 1892, and the child died in May, 1892. In the same year another child, aged 3, took acute nephritis and died a year later; while in 1893 the baby, aged 13 months, developed the same condition.

A remarkable example of family albuminuria is described by Dr. Newbery Fergusson,[3] in which the father, mother, and eight members of the family had albuminuria, which, however, gave rise to no symptoms. I append the table given in his paper:—

Father, alive,	87,	alb.	slight.	
Mother	78,		badly.	
Female, alive,	56,	alb.	slight.	
Male	54		badly.	
Female	53			
	52		slight.	
	51		badly.	
Male	49			
	47		slight.	
Female	45		badly.	

On inquiry from various practitioners in the city as to the incidence of influenzal nephritis among their patients, it was found that cases of nephritis, more or less severe, and directly attributable to influenza, were by no means uncommon, particularly in those instances where the practitioner followed the routine of examining the urines of his convalescent cases.

Likewise, on a search through the literature, much interesting information on the subject was gleaned. First of all, in the literature of the epidemic of influenza of 1889–91 much diversity of opinion as to the ætiological relationship of nephritis and influenza is apparent. Naturally one's mind is first directed to Leichtenstern's[4] article on influenza in Nothnagel's Encyclopædia.

This authority writes that influenza does not occupy any particularly prominent position as far as the frequency of renal disease is concerned, and is by no means so dangerous to the kidneys as is, for instance, scarlatina, diphtheria, pneumonia, erysipelas, smallpox, &c. Among 439 influenza patients he saw only two cases of acute hæmorrhagic nephritis; in the German army among 55,263 patients only 10 suffered with severe inflammation of the kidneys. However, he continues: "But even at the time I called attention, in my influenza lectures, to the fact that during the months after the termination of the epidemic remarkably many cases of nephritis were admitted, without any ætiological history other than an antecedent attack of influenza. Perhaps these were cases of a post-influenzal nephritis, analogous to those following scarlet fever, tonsillitis, and diphtheria."

Dr. Samuel West,[5] in an address on influenza, says: "Nephritis is a rare complication, and met with rather after than during the acute stage." Likewise Lord,[6] writing in Osler and Macrae's "System of Medicine," states that influenza seems to spare the kidney in the vast majority of cases; in very rare instances has a nephritis been noticed.

Sir Bertrand Dawson,[7] in Allchin's "Manual of Medicine," says: "A large quantity of albumin, with or without hæmaturia, may be present; sometimes it is accompanied by œdema and denotes nephritis, but more often it does not."

Sir J. W. Moore,[8] in the "Encyclopædia Medica," states: "Albuminuria is by no means uncommon in influenza, but nephritis must be looked upon as an infrequent complication or sequela. When it occurs it is a true acute infective glomerulo-nephritis."

Goodhart,[9] in Allbutt and Rolleston's "System of Medicine," writes: "Albuminuria and hæmaturia were not uncommon in the train of influenza, with nephritis as an occasional result."

On the other hand, Grainger Stewart,[10] in his address on medicine at the British Medical Association in 1894, said that "the urinary system was affected in many ways. Sometimes there was a mere passing albuminuria, sometimes a formidable hæmaturia or serious inflammation of the kidneys, and in some epidemics, as in one of those recently described in Egypt, such changes were frequent and in a considerable number of instances proved fatal by uræmia."

Speigelberg,[11] in Pfaundler and Schlossmann's "Diseases of Children," states: "Albumin occurs in 6 per cent. to 10 per cent. of cases, and acute nephritis may develop similar to that in scarlet fever, and cases of the acute hæmorrhagic type have been reported."

Senator,[12] of Berlin, writing in Nothnagel's "Encyclopædia of Practical Medicine," takes a very decided view, and states that influenza, if it does not surpass scarlatina as a cause of nephritis, is at least nearly on a par with that disease.

Fenwick[13] considered that an attack of influenza often proved a touchstone of real value in detecting any weak point or predisposition to disease in the urinary tract.

Watson,[14] discussing the causation of acute nephritis in a series of cases, traces influenza as an exciting cause in 10 per cent.

In a paper entitled "Renal Affections following Influenza" Baumgarten[15] states that he has become convinced that damage to the kidney is a frequent and sometimes serious result of grippe. The form which this damage is capable of taking seems manifold. Apart from transient albuminuria he has found in the train of influenza acute degeneration of the kidney, acute inflammation, both varieties of the chronic diffuse nephritis, and finally cases of persistent albuminuria. An epidemic of influenza thus becomes harmful in a way which is not at once apparent, because the damage to the kidney may not become manifest until the patient is believed to have recovered from the original disease, and the epidemic is forgotten. Baumgarten's contention is confirmed by the statistics of his own life insurance practice. In the five "grippe" years in America (1890-94) he examined 1222 apparently healthy adults, of whom 3·35 per cent. were rejected for albuminuria. In the immediately preceding five years (1885–89), out of 1029, roughly an equivalent number, only 0·77 per cent. were rejected for albuminuria. This result is on a par with Leichtenstern's already quoted observation as to the increased incidence of nephritis in Germany after the same influenza epidemic.

Cases of acute nephritis arising from influenza are also reported in the literature by Mansel Sympson,[16] Piggott,[17] Fraser,[18] Drew,[19] Russell,[20] Ribbert,[21] Strumpell,[22] Krahl,[23] Anton,[24] &c. Fraser drew attention in his case to the great rise in the amount of albumin excreted with the onset of bronchitis.

As regards the recent epidemic the literature on the subject is more unanimous, and the importance of nephritis as a complication of influenza is more clearly recognised.

Herringham,[25] in opening the discussion on influenza at the recent meeting of the British Medical Association, states that in June, 1918, epidemic nephritis was fairly common, but in the autumn epidemic the most *common* complication was nephritis, while in the third wave in February the incidence of nephritis was lessened.

In the report of the influenza epidemic of 1918 in the British armies in France by the Influenza Committee of the Advisory Board to the D.G.M.S.[26] it is stated that the chief complications after the pulmonary were albuminuria and nephritis. In the first few weeks of the epidemic cases were generally reported to be free from albuminuria, but about the same time as pulmonary infection appeared albuminuria also began to be noticed. The Medical Research Committee[27] has already drawn attention to this connexion: "In the winter of 1916–17 a considerable number of cases of nephritis occurred as a complication of the very severe bronchitis and broncho-pneumonia prevalent at the time."

Symonds,[28] in a paper entitled "Nephritis in Relation to the Recent Epidemic of Influenza," describes a series of 22 cases of influenzal broncho-pneumonia complicated with nephritis with 11 deaths, autopsy revealing an acute degeneration of the kidneys.

Colonel Soltau,[29] speaking at the discussion on influenza in the Royal Society of Medicine, said: "Many patients had slumbering or latent nephritis lighted up, and of these the majority died."

In the same discussion Whittingham[30] stated that "albumin was present in 100 per cent. of the cases on the second day of the disease. Casts were present in 50 per cent. cases on the third day to fifth day. The albuminuria gradually diminishes, but if the men are returned to duty too soon after mild influenza there is risk of nephritis developing."

Cole and Rudolf,[31] speaking of the epidemic at Bramshott in September–October, 1918, declared that in almost all febrile cases a mild nephritis developed, the urine containing albumin, red and white blood cells, and granular and hyaline casts. In some cases the urine was bloody and diminished in quantity. Post mortem many kidneys were hæmorrhagic like those of scarlatinal nephritis.

Abrahams, Hallows, and French[32] drew attention to the high percentage of influenzal-pneumonia cases complicated by acute nephritis, and state that such cases would escape detection were reliance placed on clinical evidence alone without examination of the urine. A peculiar feature of these cases (also remarked by Symonds) is the absence of œdema. Without a routine examination of urine influenzal patients might be discharged as cured while still nephritic. It is from cases such as these that Rose Bradford's small white kidney "of unknown origin" later on develops. Post mortem these observers found that the large, red blood-oozing kidneys of the type seen in acute scarlatinal nephritis—an acute glomerular nephritis—were constant in their appearance in fatal cases.

In civilian practice Davies[33] records three cases of acute nephritis following influenza, with two deaths from uræmia. He also remarks that chronic nephritis is a more common sequel than acute nephritis.

Solfre of Naples[34] emphasises the frequency of nephritis in severe cases of influenza, and notes the constancy of this complication in fatal cases, while Dalimier[35] lays great stress on the prognostic importance of the renal functions. He states that the severe and rapidly fatal cases were those in which albuminuria was most marked. This is also the opinion of Sir John W. Moore,[36] who measures the gravity of a severe attack by the intensity of albuminuria.

Post-mortem the kidneys, as described by Douglas Symmers,[37] of New York, were found enlarged and congested, the capsule was tense and stripped easily, leaving a dull injected surface which bulged considerably beyond the cut edge of the capsule. Microscopically a diffuse cloudy swelling of the epithelium, especially of the convoluted tubes, was present.

There is, therefore, a very considerable weight of evidence to prove that influenza is a very important ætiological factor in nephritis. Its recognition as such means a further encroachment on the ever-diminishing domain of so-called idiopathic nephritis, and in this connexion the view ably advocated by Professor H. B. Day,[38] that war

nephritis is but a complication of trench fever, may be recalled.

Conclusions.

1. That nephritis is a more frequent complication of influenza than is commonly thought.

2. That the virus of influenza may affect the kidneys in various ways: (*a*) By producing a temporary albuminuria as seen in many other acute infectious fevers. (*b*) By causing an acute nephritis during the course of the disease, especially if respiratory symptoms are present. (*c*) Nephritis may arise during convalescence, as in scarlatina. The damage to the kidney may not become manifest until the patient is believed to have recovered from the original disease. (*d*) A dormant or latent nephritis may be lighted up.

3. Nephritis may follow even mild cases of influenza.

4. Nephritis occurring during the course of influenza may be masked by the respiratory symptoms, and only careful routine examination of the urine may demonstrate its presence, while some of the cases arising after the symptoms of influenza have abated may show such slight symptoms—transient œdema, slight oliguria, or capricious albuminuria—that they may easily be missed.

5. That the urine in this disease should be frequently tested not only during the disease but also during convalescence.

6. That probably the frequency and severity of this complication varies in different parts of the world and in different epidemics.

7. That in the next few years we may expect in examination for life insurance to find a higher percentage of albuminurics.

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THE FACTORS CONCERNED IN ASTHMA AND THEIR TREATMENT.

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THIS paper is an attempt to formulate a working hypothesis as to the various pathological conditions which underlie the clinical phenomena of asthma and to suggest treatment appropriate to each of them, treatment aimed rather at prevention of the paroxysm than at its relief.

Definition of Asthma.

It is necessary first of all to make some definition of the title asthma and decide how much is to be included in it.

Hyde Salter's book begins with the words, "Spasmodic asthma—paroxysmal dyspnœa of a peculiar character, generally periodic, with intervals of healthy respiration between the attacks." This may be taken as authoritative, but this author regarded the phenomenon as a disease, whereas at present most physicians consider it as a symptom, and as such it is considered in this paper.

The word asthma is now used, at any rate by most patients, in a fairly extended sense, including paroxysmal dyspnœa from many causes and also something more than paroxysmal dyspnœa. A healthy man after violent exercise is short of breath; a person suffering from heart disease is short of breath on slight exertion; but where there is no restriction to the breathing, which is rapid and copious, and when each breath gives some relief, the condition might, if there were not already too many distinctions of the kind, be called *polypnœa* rather than *dyspnœa*. The asthmatic, however, suffers from definite *dyspnœa*, each breath is difficult, and is performed against resistance. The dyspnœa occurs in paroxysms independent of obvious external cause like exercise, and in well-established cases a condition of mild chronic dyspnœa is found in which the accessory muscles of respiration are constantly employed. This chronic condition is closely associated with emphysema, but is to be distinguished from the relatively rare condition of gross obstruction of the large respiratory passages from within or without.

The word asthma is therefore used here to include spasmodic attacks of difficult breathing, without obvious exciting cause, which lead to a condition of mild chronic dyspnœa with exacerbations. It is a respiratory symptom that occurs in bronchitis, heart disease, renal disease, and alimentary disease, and also as a pure neurosis—in fact, in one or other disorder of all the great physiological systems.

A respiratory symptom is a disturbance of the respiratory function, which is said to be controlled by the respiratory centre in the medulla, and it should be admitted that for the physician such "centres" are used as a convenient hypothesis rather than as the accurately localised points on which the experimental physiologist founds his work. The respiratory centre is normally stimulated to activity by the presence of carbonic acid in the blood. It controls the neuro-muscular apparatus whereby the lungs are filled and emptied, some parts of which are constantly in use, and others, the accessory muscles, are held in

reserve to reinforce respiration whenever increased action is acquired. But the respiratory muscles can be controlled by other means than the CO_2 content of the blood. Their movements can be modified at will, and they are capable of the most refined and highly coördinated voluntary action, as when used by expert singers. No other of the great visceral systems is under like control for a purpose quite distinct from the discharge of its essential functions, and since this voluntary control exists it is liable to hysterical disturbance. Hysterical mutism and aphonia are common phenomena, and all observers are agreed as to the large neurotic element in asthma. Attacks of spasmodic dyspnœa, frequently nocturnal, have been observed by the writer among troops suffering from war neurasthenia; it is one of the visceral disturbances of that condition, and may be regarded as due to an instability of the respiratory centre.

If one may be allowed to postulate an unduly irritable state of the respiratory and other visceral centres, a working hypothesis for asthma is readily constructed. The respiratory centre has its normal stimulus in the CO_2 content of the blood, and the respiratory movements are also subject to voluntary control, but the centre can also be reached by other routes. Sneezing and coughing are both reflex modifications of respiration, and indicate that there is an afferent path to the centre from the respiratory mucous membrane. But the act of sneezing can be induced by looking at the sun, so that yet another surface, the conjunctiva, must have afferent connexions with the respiratory centre.

Analogy with Hay Fever.

Much light is thrown on the problem of asthma by consideration of the cognate problem of hay fever, about which a good deal of accurate information exists. When the grass is in flower and its pollen is in the air some persons suffer from the persistent sneezing attacks which are called "hay fever." The pollen falls on the nasal mucous membranes of the whole community, but only a small proportion suffers from hay fever; these patients are hypersensitive to pollen, and at any time of year a drop of watery extract of pollen instilled into the conjunctival sac will induce in them an attack of sneezing. They are especially susceptible to a toxin in the pollen, and by appropriate subcutaneous injection they can be immunised against it.[1] The question arises whether in such patients it is the respiratory or the vaso-motor centre which is disturbed; it might well be the latter, vaso-dilatation and effusion occurring at the site of absorption, and sneezing being induced by the exudation as it would be in a healthy person. Probably both centres are stimulated, and the point is worth noting, since bronchial vaso-motor turgescence and bronchial muscular spasm have both been held responsible for the phenomena of asthma. The average hay fever subject is only susceptible to the pollen of a few grasses, which are specific for him, but more sensitive persons can be stimulated by a greater variety, by the pollen of some flowering plants, by the effluvia of particular animals, and so on. The specificity of certain toxins is also traceable in asthma. We have therefore to think of a respiratory centre closely associated with a vaso-motor centre, and both liable to be excited to action in a reflex manner by means of a specific toxin.

[1] Noon: THE LANCET, June 10th, 1911, p. 1572; Freeman, THE LANCET, Sept. 16th, 1911, p. 814.

The study of hay fever establishes, or at least suggests, the following facts:—

1. The respiratory centre is abnormally irritable in some persons.
2. An association exists between the respiratory and vaso-motor centres, so that both may be excited by a single peripheral cause.
3. This suggests the possibility of a general association of the visceral centres.
4. The respiratory centre may be excited by impulses from the respiratory mucous membrane with the precipitation of a reflex act.
5. The respiratory centre may be excited by stimulation of a mucous surface which is separate from the respiratory system.
6. Specific chemical substances exist which readily stimulate the respiratory and vaso-motor centres when applied to mucous surfaces.

These observations may be applied to the problem of asthma in the following way:—

1. *The over-excitable respiratory centre.*—Chronic bronchitis is one of the commonest diseases in this country, but the association with it of asthma of any severity is not very frequent, the percentage of chronic bronchitics who have spasmodic dyspnœa is not very high, and one may reasonably postulate an over-excitable respiratory centre for these patients, since they suffer from a particular disturbance of the function of breathing which others, with a similar morbid condition of the lungs, do not. An irritable centre goes far to explain the asthma of renal disease, where excretion is imperfect, and noxious chemical substances are retained in the circulation; these may readily disturb such a centre, whose normal stimulus is the CO_2 content of the blood.

2. *Association of respiratory and vaso-motor centres.*—Hyde Salter claimed that the asthmatic paroxysm was due to spasm of the bronchioles; this is supported by its immediate relief by morphia. Others have regarded it as due to vaso-motor turgescence, and this view is supported by the relief given by adrenalin. Vaso-motor disturbance is obvious enough in hay fever, with its suffused eyes, and by far the most probable explanation is that both centres are closely associated and one not affected without the other.[2]

3. *General association of visceral centres.*—The asthma of cardiac disease suggests a further association of visceral centres, the cardiac centre, upset by the impulses coming from a diseased heart, affecting an associated respiratory centre.

4. *The respiratory centre aroused by irritation of the respiratory mucous membrane.*—The cough of bronchitis is the common instance of this, and the fact that the great majority of cases of asthma are bronchial in origin demonstrates the effect of chronic irritation of the bronchial mucosa on the respiratory centre of the susceptible.

5. *The respiratory centre aroused by irritation of other mucous surfaces.*—This almost follows from Section 3, but is more clearly demonstrable. The precipitation of asthmatic attacks by indigestible food is a common occurrence, and a case is quoted below where the attacks were directly traceable to the presence of a tapeworm, and ceased with its removal. Irritation of the afferent nerves from the gastro-intestinal tract appears to induce disturbance in the respiratory centre, just as irritation of the conjunctiva does in hay-fever subjects.

6. *Specific chemical substances affecting the respiratory centre.*—Ten years ago the writer conducted some experiments in the treatment of chronic

bronchitis by means of vaccines in Sir Almroth Wright's laboratory at St. Mary's Hospital. In the course of this work an organism was isolated from the sputum of a female patient suffering from bronchitis and severe asthma. She agreed to try the results of inoculation treatment, and a vaccine was prepared and injected, the patient being instructed to return in a few days. She reported on returning that though the cough was no better the breathing was much relieved; treatment was continued, and the improvement was maintained for many months, when the patient ceased to attend hospital and was lost sight of. The same vaccine was extensively used, for the hope was entertained at the time that the cause of asthma had been discovered. About 100 patients were treated and 50 attended for treatment with some regularity, with the result that about 35 showed improvement in the frequency and severity of their attacks.[2] That is to say, a considerable number of patients who suffered from bronchial asthma underwent improvement of that symptom on immunisation against a specific micro-organism found in the bronchial mucus.

This presents a close analogy with what occurs in hay fever, the symptoms of which are known to be due to a specific poison acting on a mucous membrane connected with the respiratory centre. The inference is that this organism produces a toxin which irritates the afferent bronchial nerves in such a way as to induce either bronchial spasm or vaso-motor turgescence or both. It has never been possible to guarantee improvement by the use of a vaccine of this organism and it is improbable that it is the only one concerned, its description therefore need not be repeated here, but these observations indicate that the asthmatic paroxysm itself may depend on the toxins of certain bacteria acting on a susceptible centre. Some sensitive patients are rendered asthmatic with any form of inflammation of the mucous membrane, in others definite kinds of infection are required. The successful treatment of asthma by cauterising the nasal mucous membrane and so destroying the nerve-endings of a particular area and thus preventing the passage of afferent impulses to the centre proves how slight a lesion may be required to set off the paroxysm and indicates the careful surgical treatment of all accessible abnormalities in the naso-pharynx.

Points in Treatment.

(1) *The respiratory centre.*—In the treatment of any case of asthma the points to be considered which emerge from the foregoing are as follows: The respiratory centre, the state of viscera outside the respiratory tract, the state of the respiratory mucous membrane: they are all illustrated in the accounts of cases which follow. The physician should seek means to depress an irritable centre, to remove sources of irritation from mucous membranes outside the respiratory tract, and to treat all abnormalities of that tract itself whether by surgery or therapeutic immunisation.

The following case is one of purely hysterical disturbance of respiration:—

A patient suffering from "shell shock" was examined in a hospital in France. His general appearance at first sight suggested pneumonia; the respirations were 120, with a pulse-rate of 80; he was mute and paretic. While under examination an aeroplane passed over the tent and the patient's attention was distracted for a few moments, during which the respirations fell to a much slower rate, but rose again when the machine was out of hearing. The mutism and paresis were removed in the usual way by demonstration and re-education, during which time the breathing became normal.

Another asthmatic patient definitely dates the onset of attacks from some shock in the trenches, being blown up and buried, or the like. A third patient, whose case is quoted below, never suffered from asthma, although the exciting cause was present, until the London air-raids began. A fourth, also quoted, follows an occupation in which work is light at the beginning of the week, but accumulates towards the end, each day being heavier than the preceding; in his bad periods the attacks were always more severe towards the end of the week. In such a case the use of sedatives is clearly indicated, and this man experienced definite improvement after taking bromides at night.

Sedative drugs and re-education should therefore be employed as required where the centre is at fault and under imperfect control.

(2) *Mucous membranes outside the respiratory tract.*—The following case is an instance of asthma largely of intestinal origin:—

CASE 1.—W. M., aged 33. Has suffered from a tapeworm for the last five years. Two years ago, during air-raids, she suffered from bronchitis as a result of going out not fully clad; the bronchitis was associated with paroxysmal dyspnœa. Has an established cough, with nocturnal dyspnœa, cannot lie flat, and never sleeps the night through. She states that the dyspnœa was always worst during air-raid periods, and was always severe after a heavy meal taken at night. There is bony obstruction in the nose: it is not complete, but the passage is imperfect; the palate is narrow, though not extremely so. The accessory muscles of respiration were at work, but there were no other physical signs of disease. She was admitted to Westminster Hospital. In the absence of any bronchitis of severity it was assumed that the asthma as at present existing was due to intestinal irritation, and the usual anthelmintic treatment was given, with evacuation of many segments of a tapeworm, but, unfortunately, the head was not passed. The result has been a complete relief of the asthma; the patient can lie flat in bed and sleeps the night through.

This patient is a typical instance of spasmodic dyspnœa kept up by irritation outside the respiratory tract. She has a narrow palate, a condition frequently associated with epilepsy, and nervous instability in general; it was a common experience at the war that persons of this type stood war-strain very badly; an irritable respiratory centre is therefore not surprising in such a case. It was found that the nervous strain of the air-raids precipitated the attacks as soon as she suffered from bronchitis. Added to this, the associated narrow base of the skull produces narrowing of the bony passages of the nose, and obstruction to breathing, in itself a source of peripheral irritation, and, finally, the gross irritation of the tapeworm kept the attacks going. The removal of the latter has stopped the asthma; if the worm recurs the attacks will probably recur likewise. If they recur independently the proper procedure will be operative treatment of the nose. This was suggested to a surgical colleague for immediate action, but he did regard it as indicated.

(3) *Surgical conditions of the respiratory tract.*—This patient (Case 2) had very definite abnormalities of the nose and throat. He was seen shortly before the war, and surgical treatment was undertaken with some immediate benefit. He is, however, subject to such remarkable variations in condition

[2] Brit. Med. Jour., Oct. 9th, 1909.

according to the locality in which he is living, that no weight can be attached to the apparent results of treatment. It was clearly correct practice to have his respiratory abnormalities surgically treated in view of his respiratory symptoms, but the whole history is stated as a warning against hasty inferences.

CASE 2.—D. A., aged 18 when first seen. Asthma of three years' duration. Sudden onset with a "cold," went to play tennis, and could not do so owing to dyspnœa. Attacks are chiefly nocturnal; in an attack simply cannot get breath; some cough, but no expectoration. Patient is extremely susceptible to locality, being free at the sea and on high ground, but much more liable when near any quantity of fresh water, such as lakes or rivers. On examination, some constant dyspnœa with over-action of the scalenes was found, but no physical signs in the lungs; there was, however, a good deal of abnormality in the nose and throat, septic tonsils, adenoids, and enlarged middle turbinal bones. This condition was treated surgically, and bad asthma followed for the first few days. Examined about a fortnight later the breathing was found much improved, and the patient remained free for some months.

In reply to a request for further information the patient very kindly supplied the following:—

October, 1913.—Operation throat and nose in Middlesex.

November, 1913.—Went to Liverpool, and was there till November, 1915. Fairly well, and suffered very slightly. Could play cricket and tennis.

September, 1914.—Had severe attack at Carnarvon for about 48 hours. During autumn not too well, and advised not to join the army.

January, 1915.—Joined army (saying nothing about asthma). Trained first outside Liverpool. Quite well.

April.—Went to Conway (N. Wales). Very well. Weighed 12 st. stripped. (I only weigh 11 st. in clothes now.) Went up Conway mountains, &c.

November.—Went to France. Quite all right. Never suffered in the trenches even when waist-deep in water. Could always sleep. No exertion ever brought on an attack.

July, 1916.—Got mixed up with gas shells (tear gas) and swallowed a good deal. About ten days after started very severe attack lasting five days. Went to hospital and came to England. Sent to Manchester, and after two weeks convalescent home sent on leave. No treatment apart from usual medicine.

August.—On leave. Went to Norfolk and had bad attack. Went to West Kirby, Cheshire. Had severe attacks bi-weekly. Private doctor there first used adrenalin chloride. Very good results, but only lasted about 8–10 hours.

September.—Had medical board at Hounslow (very bad at the time), more leave. Severe attacks kept on, and had adrenalin fairly frequently.

October.—Had medical board and asked to go back to duty. Went to Hull. Within a fortnight had another very severe attack. Sent into Hull Infirmary. Out in ten days (usual medicine) and went on leave.

November.—Slightly better while on leave, but I couldn't stop in Middlesex; always made me bad. Went back to Hull and at once ill again with the worst attack ever experienced. Sent into infirmary again.

December.—Came out of infirmary and passed fit for general service at once. Finally, I was allowed leave pending overseas instructions, as I couldn't stand Hull.

January, 1917.—Went overseas. Landed at Boulogne feeling bad. Went up to Etaples feeling worse. After 24 hours there I was sent to hospital again.

February.—After three weeks in hospital I came back to England and went to hospital in London.

March.—Sent into convalescent home at Bournemouth. There eight weeks. Much better, and could sleep, and weight increased.

End April.—Rejoined regiment outside Hull.

End May.—Went overseas again.

End July.—Had very severe attack while outside Nieuport with my regiment. Sent to hospital and then to convalescent home at Dieppe.

August.—Transferred to Flying Corps. Base medical board kept me at Etaples till orders came through. During that time I was frequently quite bad.

Beginning November.—Came home to England for R.F.C., and was passed by Hampstead medical board as fit for pilot. I had to argue with them for a long time as I admitted having asthma.

January, 1918.—Started flying. Fairly well. Obtained certificate, &c.

May to September.—Instructing near Cambridge. Frequently very bad, but never went sick; kept going somehow. Used adrenalin. On occasions I have only got to the aerodrome (400 yards from mess) after making three halts on the way, and then had hardly enough strength to climb into the aeroplane. Felt better up in the air, but, of course, I was sitting down and keeping still. I always considered being in the air made breathing much easier.

October.—Went to Norfolk. One very bad attack again.

November–December.—Trotting the country; fairly well.

January–March, 1919.—At Hythe. Much better. Hardly any sign.

April.—Demobilised. Still keeping well. Stayed down near Dover several times and felt well.

April–December.—Bristol. To start with I was much better and did some rowing during the summer, and actually raced in a regatta. In September I had some attacks. In end October, in Middlesex, I had a very severe attack again. Much better now. Middlesex never suits me, and I'm always ill there. I never started asthma till I came there. I consider London and the south-east coast (Margate, Dover, &c.) as the places I have felt really well in. There is no doubt that the gas shells made all the difference to me, as for nine months in France prior to July, 1916, I was very well and fully capable of doing duty with an infantry regiment. Flying seemed to do me good. I've been up to 13,500 ft. and felt quite all right. I don't think my operation was much benefit, nor was cauterising. I consider I'm much better now than I was in 1916, 1917, and 1918, and am hoping I am gradually leaving it behind.

4. *Inflammation of the respiratory mucous membrane.*

CASE 3.—W. H., seen in 1913. Increasing asthma for ten years; attacks are much affected by food and patient has to live very plainly. There is some bony obstruction in the nose, which was once cauterised with benefit lasting about six months. No abnormality was detected in the chest. It was decided to try the effect of inoculation, and a streptococcus and coliform bacillus were isolated from the sputum and employed. This patient suffered much more in periods of mental stress; the heavier his day's work the more liable he was to attacks. He was accordingly treated with bromides, to be taken at night when overworked, with a good deal of benefit. Further, there was some difficulty in bringing up sputum, which was benefited by lemonade taken at bedtime, the idea being that any substance which decreases the coagulability of the blood likewise decreases the viscidity of all discharges, and thus makes these more readily expelled. This patient remained under treatment for about nine months, having injections every week for about two months, the interval being gradually extended to a month. The number of attacks recorded in succeeding weeks were as follows after treatment was begun for the first three months:—

October—1st wk.,	2 attacks.	November—3rd wk.,	0 attack.
,, 2nd ,,	2 ,,	,, 4th ,,	0 ,,
,, 3rd ,,	7 ,,	December—1st ,,	1 ,,
,, 4th ,,	1 attack.	,, 2nd ,,	1 ,,
November—1st ,,	3 attacks.	,, 3rd ,,	1 ,,
,, 2nd ,,	3 ,,	,, 4th ,,	1 ,,

January, February, March, April, May, June, no attacks; July, 15 attacks.

During this time "tightness" and wheezing in varying degrees used to occur, but stopped short of what the patient calls an "attack." This July relapse occurred just before the outbreak of war, and the patient was not seen. Treatment was, however, continued by Dr. Braxton Hicks, and in 1918 he wrote to the following effect. There was some return of asthma in the summers of 1916 and 1917, when conditions of work were particularly trying, but these were cut short by resumption of inoculations, which he forthwith took quarterly. "I have had no bronchitis, not a common cold even, for three years or more." He wrote again, on a request for a report, in October, 1919:—

"There have been several spells of six and nine months of complete freedom; the old tightness has lessened. For the last three years I have been able to do a lot of cycling and some rowing ..... neither of which I could do comfortably before. ..... This year I had a fortnight by the sea with no symptoms whatever of asthma, although sea air was always bad for me before, and I swam again with no ill-effects. ..... Since my return there has been some asthma, not much, but sufficient to show that I am not entirely free."

This case appears to be one in which the irritable centre is clearly present, the irritability being increased by nervous stress. The most important peripheral condition is the bronchitis and when that is kept in abeyance by suitable immunisation the patient is free; he is fortunate in that his infecting organisms have been easily isolated and he has responded well. The immediate response to a few very small doses of vaccine, quite insufficient to cure an established bronchitis, make me regard his case as one in which the organisms produce a special toxin which precipitates the paroxysms as does the pollen in hay fever.

Conclusion.

In the treatment of asthma, therefore, one has to consider an irritable centre, hysterical influence of that centre, infections of the bronchi and parts of the lungs below them, more especially with specific bacteria whose toxins induce the paroxysms, abnormalities of the respiratory tract superior to the bronchi, and irritation of viscera outside the respiratory tract altogether.

For the centre, the use of sedatives, and the usual psychical methods applicable to hysteria must be employed as required. For the nose and throat surgical methods are generally needed, and appropriate treatment must be given to other visceral disturbances.

As to the respiratory tract proper, bronchitis must be treated in some way or other. If patients can afford to be sent to the high Alps, to the Sahara, or for winter cruises in the Mediterranean, well and good. If they are less fortunate and have to earn their livings under unfavourable conditions, some definite therapeutic attempt must be made to deal with the condition. It is a bacterial infection, and in all recovery from such infections the natural capacity of the body to elaborate antibodies is required, for which the only therapeutic measure we possess is treatment by appropriate vaccines; finally, if the hypothesis as to the specific character of certain bacterial toxins in the inducement of asthma is correct, that cause also can frequently be combated by the employment of vaccines.

It is submitted that this constitutes a scheme for the treatment of the asthmatic state on rational lines.

NOTES OF A SERIES OF 103 CASES OF COMPOUND (GUNSHOT) FRACTURES OF THE FEMUR

TREATED AT A GENERAL HOSPITAL IN FRANCE.

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GUNSHOT fractures of the femur, the gradual evolution of their treatment, and the great improvement in the final results, form one of the most interesting chapters of military surgery during the recent war. The extremely interesting book by Lieutenant-Colonel M. G. Pearson and Captain J. Drummond on "Fractured Femurs: their Treatment by Calliper-Extension" gives an admirable account of the later phases of the femur problem, and it was after reading this that I thought that a brief account of a series of fractured femurs treated at an earlier date at a general hospital in France might be of interest. Indeed, it is only by considering series of statistics from Casualty Clearing Stations, general hospitals abroad, and home hospitals at different periods of the war that a true idea of the improvements brought about can be realised. Statistics of end-results alone may give a false impression unless there is also some information as to the mortality and the amputation-rate before the end-results are attained. On this subject Colonel Pearson and Captain Drummond throw some light, for they are able to tell us that even in 1918 the total mortality in field ambulances and Casualty Clearing Stations was about 20 per cent., and that, in spite of the short stay of these cases in hospitals in France for the last four or five months of the war, the mortality at all hospitals on the lines of communication taken together was 10·8 per cent. and the amputation-rate 10·2 per cent. It would be interesting to know the mortality and the amputation-rate at casualty clearing stations and at home hospitals for this same period.[1]

In the evolution of the treatment of fractured femurs three periods may be recognised. In the first, which occupied about the first year of the war, the treatment was very much on the old lines, but observations were being made, facts recorded, and means for meeting septic and other complications were being sought for.

In the second period, which extended from the summer of 1915 to about the beginning of 1918, new and improved methods of treating both the wounds and the fractures were being devised and perfected. The Thomas splint became the standard apparatus for treating these fractures; the suspension method was devised by Major M. Sinclair; towards the end the calliper method of procuring extension was introduced, as well as many other contrivances for overcoming the septic infection of the wounds, for improving the position of the fractures, and for obtaining in the end a good functional result. I particularly wish to emphasise the work done during this period, for there is a tendency for it to be overlooked. As a matter of fact, I believe that practically all the methods which gave such greatly improved results during 1918 were really devised during this second period.

The third period commenced about February, 1918, and was characterised by the provision of a specially equipped femur hospital for each area in France, and later by similar hospitals at home, where the developments and improvements of the preceding period were systematically and thoroughly carried out with such excellent results.

Description of Cases.

The series of cases under present consideration, amounting to 103, were treated in No. 3 General Hospital between July 1st and Dec. 31st, 1917; they were originally collected for the purpose of providing information to the authorities, with reference especially to mortality and amputation-rates. The cases were consecutive and include all cases of complete fracture with solution of continuity, from the neck of the bone to the condyles. In many cases there were other wounds as well, but all are included in the series. Cases where amputation had been performed before admission are omitted. Cases of partial fracture or where metal fragments were embedded in the bone without complete fracture are not included; wounds of the knee-joint with fracture of a portion of a condyle are also not included. It will be noticed that this

[1] Since the above was written an address by Sir Anthony Bowlby on Gunshot Fractures of the Femur has been published in the British Medical Journal, Jan. 3rd, 1920, p. 1. This gives much new information as regards amputation-rates and mortality at casualty clearing stations, general hospitals, and home hospitals.

series comes into the second, or intermediate, of the three periods, before the establishment of special femur hospitals, when these cases were treated at any L. of C. hospital to which they happened to be sent, and before special appliances were generally available. The patients practically all came from the Ypres district, which accounts for the exceptionally septic character of the wounds; most of them were wounded during the attack on the Paschendaele ridge in the autumn of 1917. Of the 103 cases I have fairly full notes of about 30, brief notes with X ray tracings of another 35, while of the remainder I have simply records of the nature of the injury, the duration of their stay in hospital, and their ultimate disposal.

1. *Treatment Before and Condition on Admission.*

As a general rule the men had been wounded two or three days before admission. A few had been wounded on the previous day, while in others the interval was a few days longer. The latter had either been kept for a few days at the C.C.S., or had had a long period of "lying-out." Generally speaking, at the clearing station the wounds were excised and drainage provided, with removal of loose fragments of bone, and sometimes of the missile, the patients being then at the earliest opportunity sent on to a general hospital. With one or two exceptions the limb was put up from the first on a Thomas splint.

In all the 103 cases the wounds were septic, and in most of them grossly so. There were three cases of massive gas gangrene and a good many cases of local gas cellulitis which proved amenable to treatment. In a good many the limb was so swollen that it occupied the whole space between the side bars of the Thomas splint. Several of these I have noted as cases of "threatened gas gangrene," but, though a local gas cellulitis was present, massive gas gangrene did not develop, and the limb recovered with free incisions and drainage. The splinting of the fractures on arrival was nearly always unsatisfactory. The extension bands, which had been glued to the side of the leg and tied to the end of the splint, were almost invariably slack, so that there was no extension, and the ring of the splint was often an inch or more below the tuberosity of the ischium. Under these circumstances the splint acted rather as a sort of tray on which the injured limb rested. The expression "no extension, position bad," occurs again and again in those cases of which I have full notes. I have no doubt that the extension was satisfactory when the patients left the C.C.S., and that subsequent stretching of the bands, combined with the unavoidable disturbance of the splint during transport, was responsible for the unsatisfactory condition on arrival. Various methods of dressing had been employed, but there was very little to choose between them, except that those in which the Carrel-Dakin method had been employed were rather worse on account of the tendency to provide insufficient drainage.

2. *Method of Treatment.*

As soon as possible after admission an X ray examination was made with a view to ascertaining the nature and position of the fracture and the presence of any metal fragment. As a rule, no X ray examination had been made at the C.C.S. owing either to the absence of the apparatus or, more often, to the pressure of work. The result was that in many cases, though the wound had been excised and drainage provided, the metal fragment had been left in situ. Metal fragments, most of them removable, are present in 24 out of 55 tracings of X ray plates. As soon as this examination had been made an anæsthetic was given, the wound explored, any loose fragments of bone removed, any retained metal fragment sought for, and freer drainage provided, if thought desirable. The splint was readjusted and extension obtained, in most cases, by means of a spring. As a rule, owing to the swelling of the limb and the condition of the wound, it was impossible at this time to get the fragments into satisfactory position, but usually, after ten days or so, swelling and sepsis had been overcome to such an extent that it was possible to adopt means for improving the position of the fracture. There is no need here to describe the particular methods employed, as this has already been done.[2]

The Thomas splint was employed as a routine apparatus, but in three cases a long Liston splint was used for a time, and in one or two an abduction frame. In all these the position of the wound prevented the satisfactory application of the Thomas. Generally the splint was used with the true "Thomas" action with counter-extension from the tuberosity of the ischium, but in a few cases the "Hodgen" was obtained by suspending the splint from an extemporised support attached to the foot of the bed. It must be remembered that at this time suspension frames, such as were afterwards fitted in the special femur hospitals, were unobtainable. To give an example of the difficulties that one was confronted with, I had for six months been trying to get some Sinclair "net beds" for treatment of these cases but without success. Officially they were unknown, and it was not until nearly a year after they had been ordered that these beds arrived. It may also be mentioned that callipers were not generally available until the spring of 1918, though this method of obtaining extension had been introduced some months earlier.

3. *Duration of Stay in Hospital: Mortality.*

All cases were kept until active sepsis had subsided, the temperature had become normal, and the danger of secondary hæmorrhage had passed. Excluding those who died and those where amputation was required, I have a record of the length of stay in hospital of 76 cases, the average being 52 days. In the great majority of cases there was fairly firm union before discharge. I have notes of four cases in which the wounds had entirely healed before transfer to home hospitals, and I know there were two others. Of the four cases one healed after primary excision of the wound and suture, one after secondary suture, and the other two by granulation. All the men when evacuated to home hospitals were still fitted with Thomas splints.

The 103 cases were made up of 15 British officers, 58 British other ranks, and 30 German prisoners of war, including two officers. The deaths were as follows: British officers, 2; British other ranks, 6; Germans, 6; total, 14 (13·59 per cent.). The higher mortality among the Germans is due to the fact that most of them had been lying out for a long time, and on this account their condition, both local and general, was very bad on admission. The above includes all deaths from whatever cause between admission to hospital and evacuation to home

[2] Gunshot Fractures of the Femur, Some Methods of Overcoming Serious Displacements THE LANCET vol. ii., 1918, p. 74.

hospitals, a period averaging about 7½ weeks. The condition on discharge was such that there was probably little or no subsequent mortality.

The cause of death in each case was as follows:—

1. Capt. —. Also injury to pelvis and rectum. Toxæmia. 2. Lieut. —. Septicæmia. 3. Pte. —. Also wounds of pelvis and testicle. Toxæmia. 4. Pte. —. Also fracture of the tibia and fibula of the other leg and fracture of the humerus. Secondary hæmorrhage from wound of the arm followed later by secondary hæmorrhage from leg. Probably septicæmia. 5. Pte. —. Gas gangrene. 6. Pte. —. Gas gangrene. 7. —. Secondary hæmorrhage. 8. Pte. —. Also G.S.W. buttock and abdomen opening bladder. Secondary hæmorrhage. 9. Lieut. von —. Septicæmia. Nephritis. 10. Pte. —. Also injury to pelvis. Gas gangrene. 11. Pte. —. Septicæmia. 12. Pte. —. Secondary hæmorrhage. 13. Pte. —. Streptococcal septicæmia. 14. Pte. —. Secondary hæmorrhage.

It is possible to compare these figures with the mortality at an earlier date, since there were admitted to the same hospital, between March 1st and Dec. 31st, 1915—that is, at the end of the first and at the beginning of the second of the three periods—54 cases of fracture of the femur with 8 deaths (14·88 per cent.). As the greater number of those were treated before I joined this hospital I can give no details of this series, but I know that the stay in hospital was often only a few days, and that the men arrived on long Liston splints, and were usually sent away on abduction frames, though in some of the later cases the Thomas splint was employed. Although the mortality appears to be only slightly higher than it was some two years later, there was, owing to the short period the patients were kept in hospital in France, a very high mortality and amputation rate in home hospitals. In January, 1916, the Medical Research Committee issued a Memorandum which threw light on this by recording the late results of two series of cases treated in home hospitals during 1915. The first series consisted of 96 cases, in 6 of which amputation had been performed in France. Of the remaining 90 cases, 13 were amputated after arrival in England. Five cases died after amputation, and 8 other cases terminated fatally, giving a mortality of 13 in 90 cases (14·4 per cent.). Of the second series of 105 cases, 16 required amputation after arrival in England, of which 7 died; 4 also died without amputation, giving 11 deaths in 105 cases (10·5 per cent.). A consideration of these figures shows the great improvement effected during the second of our two periods.

Amputation Rate.

This varied considerably at different hospitals, and in some was, I believe, for a time as high as 25 per cent. Conservative methods were employed as far as possible in all the cases of the present series, and amputation was performed only in 5 cases, of which 1 died. The following were the reasons for amputation:—

1. Pte. —. General condition on admission very bad. Wound very septic. Recovery. 2. Gnr. —. Amputation for secondary hæmorrhage. Died. 3. Pte. —. Wound extremely septic. Toxæmia. Recovery. 4. Pte. —. Amputation immediately after admission for severity of injury and sepsis. Recovery. 5. Pte. —. For non-union and poor general condition. This patient had a severe fracture of the lower third of the femur with great loss of soft parts. Though septic at first the wound cleaned up well and the fracture was got into very good position. He was kept in hospital over six months and at the end of this time there was no attempt at union, and the wound of soft parts had become stationary. As his general condition was poor and all power of repair seemed to have been lost, the leg was amputated. He subsequently did well.

The last case was the only one kept for anything approaching so long a period, and, with the complete absence of reaction, I feel sure that the fracture would never have united.

Shortening.

Owing to the difficulty in accurately measuring the length of a limb on a Thomas splint I kept no complete record of the amount of shortening on discharge. Colonel Sir William Thorburn, however, carefully measured a number of these cases, and in 23 consecutive fractures found an average shortening of 2·4 cm. (1 inch = 2·54 cm.). This probably gives a fair idea of the shortening in the whole series, as the cases measured were in no way selected, but included many very severe as well as more favourable fractures.

The estimation of the amount of shortening is not without difficulty, and the measurements by various observers of the same cases often show discrepancies. A series of measurements by an independent observer in a large number of cases can, however, be relied upon to give an approximately accurate result. The difficulty in the case of fractures of the femur is chiefly that the measurements taken are not between subcutaneous bony landmarks of the femur itself, but between subcutaneous portions of other bones the relation of which to the femur is variable. The usual method is to measure the distance between the anterior superior spine of the ilium and the tip of the internal malleolus of the tibia. It is obvious that in this method the length will vary according to the position of the hip and knee-joints. Even if the limbs be placed in apparently the same relative positions there may be some tilting of the pelvis which alters the position of the two hip-joints, and this is difficult to eliminate when the injured limb is on a Thomas splint, and partly concealed by bandages and dressings. Another method is to measure from the anterior superior spine to the top of the patella. The same objection as to the possibility of tilting of the pelvis arises here, and in addition contraction of the quadriceps may raise the patella quite half an inch.

In later cases I attempted to overcome these objections by measuring from the top of the great trochanter above, to the base of the head of the fibula below, since there is, unfortunately, no definite bony tubercle on the subcutaneous surface of the external condyle. The top of the great trochanter can always be identified, and forms a satisfactory landmark at the upper end of the bone. The head of the fibula is also easily identified; a prominent tubercle at its base forms a better landmark for measurements than the tip. Provided that the points are carefully identified, and are marked on the skin with a blue pencil, and that the measurements are taken with a rigid measure fitted with a sliding indicator, I believe that this method gives more reliable results than the others. It is, of course, only applicable when the fracture is below the great trochanter. To test the possible extent of the variations in different positions I have made a series of measurements of normal legs with the hip and knee-joints in various degrees of flexion, abduction, and adduction.

In measurements from the trochanter to the head of the fibula the position of flexion of the knee-

joint is the only one which causes serious variation, but this position is both easily recognised and readily corrected. It might be thought that movements of the hip-joint would have no effect, but one often finds that the inward and outward swing of the trochanter in complete abduction and adduction respectively gives a trifling variation, usually slightly longer than when the hip is straight. These variations are, however, trivial when compared with the measurements obtained by the other methods.

The following table shows the variations in the measurements (in inches) of a normal limb, by the various methods, in different positions of the hip and knee.

—	Ant. sup. spine to int. mall.	Ant. sup. spine to patella.	Great trochanter to head of fibula.
Leg straight	33⅜	16¾	18
Hip flexed 20°	32¾	15⅞	18
Flexion of hip and knee to 20°	33	16⅛	17⅞
Hip fully abducted ...	32⅛	15⅛	18⅛
Hip fully adducted ...	34	16⅝	18
Internal rotation of hip	33⅜	16⅞	18
External rotation of hip	33½	16⅝	18

I have to thank Colonel Sir William Thorburn for his kindness in reading through and criticising the present paper.

TREATMENT OF A CASE OF NARCOLEPSY.

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FOR various reasons I should not have thought of publishing this case of functional "sleeping attacks" had it not been for the recent correspondence (THE LANCET, Dec. 27th, 1919, and four following weeks) on the drastic treatment of a similar case recorded by Dr. Hildred Carlill (THE LANCET, Dec. 20th, 1919). I did not hesitate to describe his recourse to trephining as "absolutely indefensible" in the light of modern psychotherapy. Dr. Carlill, in his reply, not unnaturally complained of my strong language, and accused me of scant courtesy, insisting on the purity of his motives and asking for an "outline" of some "alternative treatment." I used strong language only because such obsolete and perilous treatment demanded it, but I had no intention to be discourteous nor to throw doubt on the excellence of Dr. Carlill's motives. An alternative treatment I offer here.

Description of Case.

This patient had served as a subaltern in the Royal Air Force, from which he had been recently discharged before he came to me, as suffering from "minor epilepsy." The "sleeping fits," he said, had begun in 1918 during convalescence from malaria, and he attributed them to the large doses of quinine (180 gr. in two days) which he was then given for his cure. These "fits," he wrote me, "were at first of short duration, gradually becoming longer and more frequent as time went on. There were also periods when my mind was a blank, but these periods and the fits seemed to have no connexion with one another. The fits seem to be of two types: the 'conscious' type, in which, although quite aware of all that is going on around me, I suddenly lose all use of my faculties and am unable to respond in any shape or form; and the 'unconscious' type, in which the fits are usually more violent and sometimes last many hours. In the latter type, although I have not been aware of it myself, I have at times given way to what appeared to be terror, and I have spoken in a strange language, believed to be Malay, which I understand slightly. These fits, whether conscious or unconscious, have invariably taken place when I am either sitting or lying down, often during conversation or in the performance of some act, never when standing up. There has never been any warning sign save occasionally a tendency for my gaze to fix on some small object in the room. After the attack I feel slightly dazed, as if I had been in a deep, heavy sleep."

When, in the course of a brief visit to his neighbourhood, I was asked to see the patient, he had been for some weeks under the observation of a well-known expert in psychotherapy, who, however, in the course of three or four interviews, had elicited little or nothing that seemed likely to throw light on the causation of the fits. The patient was obviously of an extremely nervous disposition, and at the time of my visit was much worried over financial and domestic troubles. He seemed an honest and capable young fellow. During the war he had had several exciting experiences, one of which is worth mentioning here for its connexion with the subsequent results of mental exploration.[1]

He was on a ship off the Azores, when he heard a cry in the water. Rescue proved impossible, and later "No. 3 greaser"—a Chinaman—was found to be missing from the crew. The patient discovered that the Chinaman must have been bound in sacking, secured by a rope, and thrown overboard; also that the victim had been winning large sums of money by gambling with his compatriots. The patient believed that the latter suspected him of having evidence which would incriminate them of the murder.

The patient also confessed to me that he had always been afraid of the dark, and that he was still afraid of it. Just before I saw him, he had had two "sleeping fits" of the unconscious type within two or three days, and it had been observed that both these fits were ushered in by his assuming a peculiar attitude of the arms, the left arm and fingers being outstretched in front of the body, the right arm being flexed at the elbow and kept close to the side with the fist firmly clenched.

Treatment by Exploration.

I resolved at once to make use of this observation. I said to the patient,

"Now I want you to compose yourself, and to get into a comfortable dreamy state. When you are in this state of reverie I am going to put your arms in a certain position, and I shall want you to tell me what comes into your head. Never mind how absurd or inconsequent it may seem, you must tell me at once what ideas occur to you."

The patient had not been told of the already described attitude which had marked the onset of at least the last two fits. When I placed his arms in the position described he at once gave me the following information in a dreamy unemotional manner:—

"Out shooting. After a small bird or animal. Came face to face with an orang utan. Within two or three yards of it. Shot it dead. Before it died, it crushed up some big sticks. I went up to it thinking it was dead. It made a grab at me."

[1] I use the word "exploration" in this paper as offering a truer description of what is generally termed "analysis," and as being free from the implications of the various psycho-analytic schools.

On being further questioned, he said that the incident had occurred in Borneo, that he had never thought or spoken of it since until that moment, and that no other European was with him at the time. He could not recall the part of Borneo where he met the orang, nor how it was that he was away from other Europeans, nor what natives, if any, he had with him.

I felt that there was more in this incident than I could elicit from the patient. Accordingly, as time pressed, I sat him in a more comfortable chair, telling him to fix his gaze on my finger and at the same time suggesting to him that he would become more and more drowsy. In a few seconds he suddenly passed into a sleep so deep that I realised that he was in one of his "sleeping fits." I was quite alone with him and was somewhat disturbed by the recollection that I had been informed that he was apt to offer violence if attempts were made forcibly to rouse him from such fits. I found that loud noises failed to produce any effect. I thereupon tried strong persuasive efforts and soon succeeded in inducing a condition in which he would sleepily reply to my questions. I extracted piecemeal the following information, with considerable trouble in overcoming obvious resistance.

"I was near the M—— River in Borneo, out shooting deer. I turned a corner and found myself face to face with an orang. I don't know who was the more frightened, he or I. I tried to use my rifle, but I was too close to do so. With great difficulty I got out my automatic pistol and shot the orang. He fell down. I went to feel his face. It was such an odd, hairy face. He made a grab at me. I jumped to one side, to the left. He made another grab at me, half sitting up. He would have got me if I had been wearing trousers instead of breeches and puttees. The orang then clawed down some thick branches and started to break them up. It made me feel horribly sick. I shot him again through the forehead, this time dead. I returned to the hut very sick and giddy. I tried to tell the natives in the hut all about it, and I wanted them to go back and to bring in the dead orang. But I did'nt know enough of their language and could'nt make them understand."

I suggested to the patient that he would wake with full knowledge of all that he had told me. But before rousing him I determined to see if I could discover the origin of his fears of darkness. His memory at once turned to a night when he awoke in the dark terrified at finding his favourite gollywog close beside him. He was then about four years old, and he recalled the entry of his elder sister into his room to comfort him and to stop his cries.

On waking from hypnosis, he re-told me all that I had learnt from him. I explained to him that he had been to sleep and had dreamed and told me of it while asleep. During his account I now put his arms in the position already described, and he at once realised that that was his attitude when, confronted at close quarters with the orang, he tried to get at his automatic pistol. He laid special stress now on the cry of the dying animal. "I was horrified: it was all so human, like the cry of a man." He gave me this account without emotion throughout, but with obvious interest and willingness—in marked contrast to the dreamy tone of the sentences I had wrung from him under strong persuasion during hypnosis.

I asked him why he had never thought or spoken of the orang incident since the day of its occurrence, but he could not give me any explanation. I asked him whether he felt at all differently since he had told me of it. He replied that it seemed as if a great load were off his mind. Before he left me to bicycle home (a distance of four miles) he told me of two other experiences—his fear of a face at the window, and his inability to read two stories in "Sherlock Holmes."

A Second Investigation.

The latter I have had no opportunity of pursuing, but the former was investigated by me on the following day, when he paid me a second visit. My first question was as to how he felt, because the improvement in his general appearance and demeanour was so obvious. He replied that he arrived home on the previous evening feeling extraordinarily vigorous in mind and body. His wife at once noticed his improved spirits. He lifted her from the floor—a feat he had never before attempted—and he felt unusually happy. I was to-day informed that when a sudden noise happened to occur in a room in which he was he would often look round suddenly at the window. He could give no explanation of this beyond faintly associating the face at the window with that of a Chinaman. Naturally I asked him if this Chinaman was "No. 3 greaser," but this did not seem to be the case. I decided to hypnotise him. He passed, with less readiness than on the previous day, into hypnosis, whereupon I elicited from him in the same dreamy unemotional tone as before the following story:—

"I knew the Chinamen on board suspected me of knowing too much about the death of 'No. 3 greaser.' I feared that they meant to kill me to save their own skins—later several of them were convicted—and consequently I used to lock my cabin door at night. My cabin was on deck with a skylight roof. One night I awoke thinking I had heard a slight noise. I looked up and saw a Chinaman's face peering in through the skylight window. I raised an alarm and the face vanished."

I suggested that he should recall this on waking, but before I woke him I proceeded to investigate two other matters, of which I had been just informed. These were that on the last occasion of his attack (when he assumed the aforementioned position) he was playing with a dog, and that on the penultimate occasion he was opening a cupboard as the attack began. I therefore questioned him under hypnosis as to what he had experienced just before the last attack occurred. He described how he was playing with a dog, which to his knowledge disliked being teased, and that he pulled its tail, whereupon it tried to bite him. "And then?" I asked. "Then I thought of the orang utan." On the occasion of the penultimate attack he suddenly thought, he told me, of his father, over whose ill-health he was greatly worried. I regret that I did not try to ascertain the relation of this thought to the orang's death. On waking he re-told me all that I had elicited from him, and he informed me that he had never thought or spoken of the cabin incident from the time of its occurrence to that day. Of course, he had not been previously aware of the association of the attack with the thought of the orang.

These were the only two occasions I had of treating the patient. More than 12 months have passed since then. Quite recently (Jan. 24th) he wrote me that as the result of my treatment he has felt "both mentally and physically different," and he thinks that "the number of sleeping fits since then only number four or five, all of which have been of a very mild character, and have taken

place quite recently, so that they may be accounted for as due to the excess of personal worry to which I have of late been subjected." These worries were, as before, of a financial and domestic character. Into them I had not the time to enter closely, nor did I attempt to explore various other sources of mental disturbance elicited during my brief inquiry.

The consequence of my two interviews with the patient is that, instead of remaining a relatively useless member of society, he has now been occupied for several months in receiving a technical training at a large engineering works; and there can be little doubt that under appropriate conditions and with fuller treatment he will make a complete recovery.

Remarks.

The interesting features of this case are:—

1. The dependence of the narcoleptic attacks on the tendency to revival of certain memories repressed from consciousness. Probably the "conscious" type of fits depended on a weaker resistance against a less forceful intrusion of such memories, and the "blank" periods occurred during "subconscious" concentration on those memories.

2. The immediacy of the amnesia. Why, we may well ask, were the memories of the orang and cabin incidents immediately lost? The answer appears to be this: The sudden strong emotion which was aroused induced a change of personality, the patient passing into a so-called "somnambulistic state," on passing out of which all recollection of the events therein occurring was repressed.

3. The striking and immediate relief obtained by the restoration of the repressed memories to full consciousness.

4. The absence of emotion during the return of the lost memories, even the resumption of the arm attitude evoking no emotion. This and numerous other cases in my experience offer no support to the view that for a successful cure emotional "abreaction" is essential during the revival of dissociated memories. I believe this view to be based on the mistaken hypothesis that what is primarily repressed in "functional" amnesia is the *emotional* component of the experience. I wish to suggest that it is the *unpleasant*, not the emotional, component that is directly repressed (or inhibited), and that the resistance against revival expresses the inability to admit the unpleasant, not the inability to face the emotion. In every-day life we forget not the emotional component of experience, which may be pleasant or unpleasant, but the unpleasant component, which may be emotional or unemotional. By bringing the same explanation to bear on the present case and on similar "functional" cases, we link up a normal with a pathological process of forgetting. Because of its concomitant unpleasant tone, it is the cognitive experience which is *repressed*, while the emotional component is merely *dissociated*, is left free to wander into other fields of cognition, and may thus or by well-known ruses manage to re-enter consciousness.

5. The value of hypnosis in immediately eliciting memories which an expert physician had been unable to revive after several sittings with the patient fully awake. A dreamy state is, as every psycho-therapeutic practitioner knows, the most effective for the process of reassociation. There is, however, no fixed line between the state of reverie desirable in every mental exploration and that of hypnosis, into which, indeed, any patient may quite spontaneously pass during such examination.

6. The value of exploration as compared with suggestion. Suggestion merely presents a motive for an action contrary to that which it sets out to cure. But it is a well-established fact of experimental psychology that one process does not destroy, but can at most merely inhibit, an antagonistic process, and that, other things being equal, the older tends to outlast the later acquired activity. Exploration, on the other hand, is a far more radical operation than suggestion, whether it be suggestion by trephining or hypnotic suggestion. Exploration is, in my opinion, the main, if not the only, ground for recourse to hypnosis. Suggestion, whether practised under hypnosis or in the waking life, is comparable rather to a stimulant or to a counter-irritant, whereas exploration attempts to probe the cause to its very origin, resting on the belief that repression and dissociation are at the root of the disorder and that redintegration alone can effect a true cure.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

GALYL IN THE TREATMENT OF POST-MALARIAL ANÆMIA.

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AND
R. F. LUNN, L.R.C.P. & S. EDIN., L.R.F.P.S. GLASG.

Dr. A. G. Phear, in his interesting article published in THE LANCET of Jan. 24th "On the Treatment of Malaria in Macedonia," makes reference to the use of galyl. The result of the use of galyl in the following case closely corresponds with the beneficial action claimed by Dr. Phear on the post-malarial conditions:—cachexia, anæmia, and splenic enlargement.

A private in the Royal Serbian Army, aged 27, was admitted to the —— General Hospital at Vertekop, under the care of one of us (R. F. L.), on Jan. 10th, 1918, suffering from marked anæmia, bronchitis, and pain in the chest of two months' duration. No reliable history could be obtained of any rigor or vomiting nor of his having received quinine treatment. On admission he was very anæmic, his complexion being of a pale lemon-yellow tint. Temp. 98° to 99·6° F. There were signs of bronchitis in the lungs, and he was very breathless on the slightest exertion. The spleen was definitely enlarged, but there was no evidence of enlargement of the liver, and no œdema. He was given a tonic mixture of iron, arsenic, and strychnine three times daily, and an expectorant mixture from Jan. 10th to 29th. During this period his temperature fluctuated irregularly in the daily rises from 99° to 100°, 101° and 102°, more often between 100° and 101°.

A blood film examination made on Jan. 14th failed to show any malarial parasites. The condition of the red cells gave evidence of his marked anæmia by the presence of degenerated cell forms and megalocytes. In a second examination made on the 23rd the search for parasites was equally unsuccessful, nor were any particles of hæmozoin pigment found. The following complete count was obtained:—

Reds	1,520,000	Hb	30 per cent.
Whites	3,600	Colour index	= 1·0

Differential count in percentages:—

Polymorphonuclears...	35	Small lymphocytes ...	54
Large lymphocytes ...	10	Eosinophils	1

In counting 100 leucocytes 4 nucleated red cells were seen (3 normoblasts and 1 megaloblast). There were also marked inequalities in size (anisocytosis) and chromatophilic changes of the red cells.

As the patient was evidently making no progress on the tonic mixture, quinine was administered in daily intramuscular doses of 15 gr. on Jan. 30th and 31st and Feb. 1st, and subsequently by the mouth in doses of 20 gr. each day from Feb. 2nd to the 7th. The temperature, which had remained at about 101·6°, showed no change till Feb. 2nd, when it fell to normal. On Feb. 9th, as the patient was still very anæmic, it was decided to administer galyl. Before doing so, however, a blood examination was made and yielded the following count:—

Reds	1,940,000	Hb	40 per cent.
Whites	6,000	Colour index ...	= 1·03

Differential count in percentages:—

Polymorphonuclears...	49	Transitionals...	1
Small lymphocytes ...	30	Eosinophils	2
Large lymphocytes ...	16	Myelocytes	2

In counting 100 leucocytes, 8 nucleated red cells were seen (7 normoblasts and 1 microblast). The red cells also showed poikilocytic and anisocytic forms and chromatophilic degeneration, but no parasites or pigment particles were seen.

Galyl (0·4 g.) was then given intravenously in 20 c.cm. of sterile solution of sodium bicarbonate. The temperature, which had been normal from Feb. 2nd to the 9th, rose during the course of the day to 100·2° but fell to normal on the 10th. The patient rapidly showed improvement, and on Feb. 16th a further blood examination gave evidence of the satisfactory response to treatment:—

Reds	3,250,000	Hb	65 per cent.
Whites	6,300	Colour index	= 1

Differential count in percentages:—

Polymorphonuclears...	41	Transitionals...	4·5
Small lymphocytes ...	40	Eosinophils	3
Large lymphocytes ...	11	Basophils	0·5

In counting 200 leucocytes, 1 normoblast only was seen. The red cells showed some variation in size and shape and chromatophilic changes, but no parasites or pigment particles could be found.

On Feb. 21st a second dose of 0·4 g. of galyl was administered intravenously as before.

The patient continued to show marked and rapid improvement in colour and general health. The temperature remained normal and the spleen could no longer be felt. On March 1st a blood count gave the following figures:—

Red	3,990,000	Hb	80 per cent.
Whites	7,500	Colour index ...	= 1·02

Differential count in percentages:—

Polymorphonuclears...	47	Eosinophils	7
Small lymphocytes ...	29	Basophils	3
Large lymphocytes ...	11	Myelocytes	2
Transitionals...	1		

No nucleated red cells were seen and there was much less evidence of irregularity in size and shape of the red cells.

Unfortunately this was the last blood examination made before the patient was finally discharged on April 4th, 1918, quite well, looking fat, robust, and of good colour; in fact, improved beyond all recognition.

The patient was subsequently readmitted to the hospital in the autumn, having been slightly wounded in the course of the final Serbian offensive in October, 1918. He then looked extremely well and had put on weight. There had been no recurrence of malaria and the spleen could not be felt.

In the failure to discover malarial parasites it would, perhaps, be rash to describe the anæmia in this case as a post-malarial condition; for such an assumption might well be regarded as unjustified and open to grave doubt despite the fact that quinine produced an alleviation of the febrile condition. With this reservation, however, we feel fully entitled to attribute the man's cure to the use of galyl, whether his anæmia was a post-malarial condition or not.

NOTES ON A CASE OF

PANCREATIC INSUFFICIENCY.

BY J. O. SYMES, M.D. LOND.,

PHYSICIAN TO THE BRISTOL GENERAL HOSPITAL.

THIS case appears to be worth recording as it presents many interesting problems, both of physiology and pathology.

The patient, a man about 40 years of age, first came under treatment in 1888, when he suffered from renal colic and ultimately passed a calcium oxalate stone. He enjoyed fair health until 1905, when, after some attacks of gout, it was found that the urine contained sugar and a trace of albumin. The amount of sugar varied from 1 to 5 per cent, and finally in 1911 it and the albumin disappeared. During this period he again passed a stone of calcium oxalate. Early in 1911 he began to have diarrhœa with offensive stools. This continued for six months and he lost much weight. In August, 1911, when he was in a nursing home having a sebaceous cyst removed from the back, it was noticed that the stools contained oil. A skiagram of the pancreas was taken, and a calculus was clearly shown in the duct of the gland. A second and third skiagram confirmed this. A month later whilst at Eastbourne the patient was seized with an acute attack of pain in the lower part of the abdomen, with vomiting and diarrhœa. The vomiting and acute pain lasted for six hours, and he was confined to bed for several days. During the next few months the abdominal pain, diarrhœa, and fatty stools persisted, and it was decided to operate with a view to removing a pancreatic calculus.

However, the pain became less acute, and skiagrams taken in April and May, 1912, showed no trace of the calculus in the pancreatic duct. The operation was therefore abandoned, but as the patient's general health was declining, and as the stools were still frequent, large, fatty, and offensive, he went into Dr. Combe's Clinique at Lausanne. Here he derived considerable benefit, partly from the use of hydrochloric acid and pepsin after meals and partly by adopting a more farinaceous diet. By the end of the year he was passing only two motions a day, and these were free from visible oil. There was no sugar or albumin in the urine. Occasionally during his stay he suffered from attacks of acute abdominal pain.

During 1913 there were some attacks of fever of several days' duration. There was no explanation of these attacks, but they were marked by an increase in the number of stools and by the passage of large quantities of oil. Patient revisited Lausanne during 1913 and 1914, and was more especially benefited by this last visit. His weight had dropped from 15 st. 2 lb. to 12 st. 5 lb.

From this period until the time of his death five years later the patient was greatly troubled by diarrhœa, four or five motions a day, of which the odour was extremely offensive; they were clay-coloured, loose, frothy, and at times looked like pure linseed oil. They were very difficult to retain and gave rise to pain and soreness at the anus. The analysis of the fæces always showed an excessive amount of connective tissue and striated muscle, enormous quantities of fat, and increased amounts of fatty acids and soaps. He was able to get about freely, and for the next five years his weight remained unaltered.

In 1916 it was first noticed that the blood pressure was excessive (310 mm. Pachon), and no measures taken succeeded in reducing it below 250 mm. The amount of albumin in the urine increased slightly, and on one occasion there was a trace of sugar in the urine. In 1918 he passed three renal calculi (calcium oxalate). Dropsy appeared in April, 1919, and four months later, in his seventieth year, he died from cardiac failure with very extensive œdema.

This case lends support to the view that oxaluria may arise from the fermentation of carbohydrates in the digestive tract. In this instance the faulty digestion of starch was due to the insufficiency of the pancreatic secretion. The first bout of oxaluria occurred 30 years before the patient's death, and probably at this time there was commencing fibrosis of the pancreas. Seventeen years later oxaluria recurred, and with it glycosuria and albuminuria. The glycosuria was never severe, and six years later, when he was carefully dieted, it disappeared, to return only on one or two occasions when he had broken his dietary regimen. It was an alimentary glycosuria, and to the end of his life the patient preserved sufficient pancreatic substance to prevent the appearance of the signs and symptoms of diabetes.

The stone in the pancreatic duct which gave rise to the acute attack during the autumn of 1911 was possibly an oxalate stone. Apparently it ulcerated its way out of the duct into the bowel. The characteristic stools of pancreatic insufficiency were noted some months before there were symptoms of a stone in the duct. The fact that the symptoms and signs became more pronounced after the stone had disappeared was due, no doubt, to cicatrisation and gradual narrowing of the lumen of the duct, and the ever-increasing fibrosis of the pancreas.

Other points of interest are: (1) The rapid and ultimately fatal rise of blood pressure due to auto-intoxication from the bowel or to imperfectly antagonised suprarenal secretion. (2) The long-continued good nutrition and physical and mental energy shown by the patient, which indicates to how great an extent pancreatic digestion may be assisted by other organs. (3) The relief afforded to the patient by withdrawing fat from the diet and giving acid preparations by the mouth (acidol pepsin, betain chloride) after meals, the increased acidity stimulating the flow of secretin, and thus increasing both the internal and external secretions of the pancreas.

Clifton.

A CASE OF

ACUTE TOTAL INVERSION OF THE PARTURIENT UTERUS.

BY H. TOWNSEND-WHITLING, M.B., B.S. DURH.,
AND
NORMAN GLOVER, M.B., B.CH. OXON.

THE following case is worthy of record, in which total inversion of the uterus occurred acutely four hours after delivery, and reduction was fortunate in achieving complete recovery.

The patient was a primipara of 28 years, who had been delivered of a male child, 7½ lb., at 11 A.M. on Dec. 22nd. Labour was normal and not excessively prolonged; presentation R.O.A. There was some feebleness of contraction of uterus afterwards, but the placenta was expelled unaided. There was only slightly excessive loss of blood. At 7 P.M., as she was still losing and complained of after-pains, the nurse in attendance got rid of an apparent intra-uterine clot by massage and compression of fundus. At 10 P.M. a catheter was passed and urine drawn off. Nothing else abnormal was noticed. Pains, however, continued from that time, becoming stronger and more expulsive in character, and at 1 A.M. one of us (N. G.) was summoned and found the whole uterus extruded from the vulva and the patient suffering from shock. Morphia gr. ¼ was given, the extruded uterus wrapped in gauze soaked in hot lysol solution, and general restoration treatment applied. At 3 A.M., on the arrival of the other partner (H. T.-W.), the entire uterus was lying outside the vulva, the placental surface of attachment being anterior and to the left. Hæmorrhage was not great, chiefly consisting of general venous oozing, and a large triangular piece of membrane could be seen spread over the uterine surface to left and inferiorly, to which two small ovoid placentæ succenturiatæ were attached. The uterine mass measured roughly 9 in. in transverse and 10 in. in vertical diameters. The patient being placed transversely across the bed and deeply anæsthetised, the uterine surface was thoroughly flushed with very hot lysol solution, and I (H. T.-W.) then stripped off the membrane with the attached placentæ succenturiatæ. Little bleeding resulted. After considerable effort the uterus was replaced inside the vagina, when severe shock occurred, and strychnine was given hypodermically. Reinversion of the uterus proved exceedingly difficult. Rupture of the vaginal walls was greatly to be feared, the vagina being already fully distended by the tumour, and the introduction of the hand still further increased the tension of the walls. Compression and manipulation of uterus backwards and upwards was useless, so the whole mass was thrust forwards and upwards into the axis of brim under deep anæsthesia. Gradually the uterus began to infold and the cup above to diminish until the latter half of its inversion occurred suddenly. Shock then, at the moment of complete reinversion, was very great. Pituitrin 0·5 c.cm. was injected and acted rapidly, and a hot intra-uterine douche of lysol was given, and the lateral and posterior fornices and vagina were packed firmly with sterilised gauze. Prophylactic injection of mixed puerperal antistreptococcic serum was given. A few hours afterwards the patient passed urine naturally. The only sequela was a temperature of 101° to 102° F. on Dec. 25th, which disappeared after the vaginal plug was removed and an intra-uterine douche given.

Remarks.

We had not before seen the third stage of acute post-partum inversion of uterus, which is stated in Eden's Midwifery to occur only once in 180,000 to 200,000 cases of child-birth. The first and second stages have both been met with and treated by me (H. T.-W.), but only after some mechanical interference with the cord still attached to an adherent placenta, or very forcible attempt at manual expulsion of placenta or clot.

In this case two factors appear to arise: (1) The overlooking of pieces of membrane with placentæ succenturiatæ attached; (2) efforts made to express a clot, doubtless resulting from a poorly contracted uterus and continued oozing from the first factor.

I should estimate this reduction as being by far the most difficult of all obstetrical manœuvres. The uterus gets rapidly swollen and enlarged, and the over-stretched vulva nips it so tightly round the false pedicle that even the replacement within the vagina is very difficult, and the want of room in the over-distended vagina greatly cramps the operator's hands. The only possible way to reinvert it, in my opinion, is to picture and follow in retrogression the pelvic axis, the slightest deviation from which produces a total block and a useless expenditure of force. Three distinct moments of shock appear. First, when the uterus is extruded from vulva; secondly, on vaginal replacement; thirdly, on the rather sudden completion of reinversion of uterus, which at the end is like the sudden expansion of a deflated india-rubber ball. Both the second and third shocks I could anticipate by touch and give warning to Dr. Glover, who most skilfully induced a very deep anæsthesia for me in the last stage.

These notes are written in the hope of helping others placed unexpectedly in a similar predicament.

Market Harborough.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF THERAPEUTICS AND PHARMACOLOGY.

THE VALUE OF ALCOHOL AS A THERAPEUTIC AGENT.

A MEETING of this section of the Royal Society of Medicine was held on Feb. 17th, Dr. H. H. DALE, the President, being in the chair, when a discussion was held on the Value of Alcohol as a Therapeutic Agent.

The PRESIDENT, in opening the discussion, said that he could only attempt a judicial review of the evidence as to the modes of action of alcohol which could be derived from pharmacological experiment, and left it to those who continued the discussion to make clear to what extent this evidence was applicable to the action of alcohol as seen in practical therapeutics. With regard to the form in which alcohol was administered, although other constituents might affect the rate of absorption, he was sceptical as to the importance sometimes attributed to the minute traces of ether and other constituents of wines and distilled liquors. They might affect the flavour of the spirit and to some extent its directly irritant action on mucous membranes, and thus indirectly the rate of its absorption, but he thought it had still to be proved that they did more. There seemed justification, therefore, for discussing the effects of ethyl alcohol as such rather than those of the various liquors containing it, which were generally used for its administration.

Action of Alcohol as a Food and as a Drug.

The known actions of alcohol might be divided into: (1) its action as a food; and (2) its action as a drug. It must now be regarded as beyond dispute that alcohol could be used by the body as a source of energy, and in that limited sense it could act as a food. Atwater and Benedict had shown that for a limited period as much as one-fifth of the body's total requirement of energy could be supplied in the form of alcohol. The body could oxidise considerable amounts of alcohol and thereby use it as an immediate source of energy in place of a calorific equivalent of carbohydrate or fat. This, however, did not commit us to the view that alcohol was a desirable source of energy for the body of the healthy person. Considered merely as a source of energy, alcohol had some peculiarities which might recommend it, in certain conditions, in preference to the normal non-nitrogenous elements of a diet. 1. It required no digestion. This was also true of dextrose. 2. It was very rapidly and completely absorbed. 3. It was not susceptible, as were the carbohydrates, to fermentation by yeasts and bacteria, with the formation of troublesome amounts of gas or an undesirable acidity. It would be expected, therefore, that in conditions in which the digestive secretions were deficient, in which absorption was retarded, in which bacterial decomposition was likely to be excessive and troublesome, the mere food value of alcohol should give it a place in rational therapeutics. It should be able to supply to a system temporarily unable to obtain it from normal sources the minimum of energy necessary to enable it to carry on and tide over a critical period. Alcohol was used purely as an emergency source of energy in the preliminary period of starvation which introduced the modern treatment of diabetes. It would be of great interest to know to what extent alcohol in this condition was really an essential factor in the treatment, and to what extent it merely helped to blunt the patient's sense of monotony and deprivation.

Alcohol as a Stimulant.

When alcohol is used as an item of the convalescent dietary it was not its food value but its drug properties which were being employed. Many would probably be familiar with the prolonged controversy which divided the world of pharmacology on the question as to whether alcohol had any scientific claim to its popular reputation as a stimulant. One school, headed by Binz, were concerned to find experimental support for the action of alcohol as a respiratory and circulatory stimulant, which the prevalent clinical practice suggested. Such evidence as they produced was subjected to destructive criticism by Schmiedeberg and his followers, who failed to find evidence of any action by alcohol which was not accounted for by its depressant action on the activity of the higher centres, or by its directly irritant action on mucous membranes. The school of Schmiedeberg had the better of the argument, and more recent work, using more modern methods, had produced evidence of the same general tendency. No evidence had been produced of a direct action of alcohol on the heart or on the circulation, which would be regarded as having any significance, apart from preconception due to clinical practice. A recent careful examination of the effect of alcohol on the excitability of the respiratory centre in normal men, produced no evidence of any stimulant action. Certain relatively trivial effects on the circulation could usually be detected. Immediately after a dose of alcohol had been swallowed the pulse showed a brief acceleration, but, as Professor Dixon had pointed out, this was not due to stimulation of the heart by alcohol, but a reflex effect of the mild irritation of the buccal and pharyngeal mucous membranes. It was generally agreed also that in man alcohol caused a dilatation of the skin vessels; the mechanism of this action was not clear, but it could not, in any case, be regarded as a stimulant action on the circulation. In the case of the action of alcohol on the higher brain centres, there was a consensus of opinion in favour of the view that the action was not due, as popularly supposed, to a stimulation of cerebral activity, but to a depression of the inhibitory control which the higher brain centres normally exercised.

The most important point which the discussion might help to illuminate was the apparent discrepancy between this pharmacological conclusion that alcohol was in no direction a true stimulant, and the still prevalent use of alcohol in therapeutics to remedy a depression or threatened failure of the circulation and respiration. He expected that the discussion would produce testimony from personal experience in favour of the view that alcohol had real value in certain conditions of this kind.

In considering the apparent discrepancy between experimental evidence and clinical experience it must be remembered that practically the whole of the experimental results had been obtained on normal subjects or normal organs. It might be suggested that the pathologically weakened heart or depressed respiratory centre was differently affected from those of the normal subject. He thought there was no warrant for such a suggestion, or that it was necessary to suppose that the effect of alcohol on the failing circulation or respiratory centre, if it had such action, was of this direct kind. He raised the question as to how far the good effects which alcohol might produce on the circulation and respiration were due, not to stimulation, but to weakening of excessive reflex excitability or of excessive inhibitions originating in the higher brain centres. A condition in which alcohol was habitually administered and credited with beneficial action, the syncope due to fright, pain, or excessive emotion, seemed to be one in which the heart and vaso-motor centre were subjected to severe central inhibition. If alcohol here assisted recovery, it would appear logical to suppose that it acted by weakening that excessive inhibition. Haldane's recent work seemed to point to an excessive reflex excitability of the respiratory centre as the cause of the rapid, shallow, ineffective respiration which impaired the oxygenation of the blood in the lungs. In a condition such as that seen in pneumonia, where restriction of the functional lung area, excessive excitation of the centre from the periphery, and abnormal reflex excitability of the centre itself might combine to impair the oxygenation of the blood, a sedative effect such as that of alcohol could be credited rationally with value. In so far as alcohol could assist in restoring a quiet, deep, effective respiration it ought to be of use. The blood would thus obtain

the best oxygenation which the condition of the lung allowed, and the supply to a labouring heart, threatened with over-distension, of well-oxygenated blood could hardly fail to have a secondary restorative effect on the circulation. If this explanation of its action be accepted, there was no escape from the conclusion that alcohol was useless in many of the conditions in which it was still habitually employed. Among the several conditions which are probably confused under the vague title of shock it might be expected that those in which inhibitions were predominant would get some benefit from alcohol; in others in which a toxæmia causing peripheral stagnation of the blood was the predominant factor there seemed no likelihood of its having any good effect.

It would not be without value, he thought, if a protest were registered against the superstition with regard to alcohol as a sort of specific against infection, and against influenza in particular. There was no evidence in favour of its having a specific or prophylactic action against infection of any kind. Its admitted action as a superficial vaso-dilator seemed clearly to condemn its use as a preliminary to or during exposure to cold. After exposure, as an aid to the effect of heat externally applied, the same vaso-dilator action, combined with its mild narcotic effect, clearly indicated its possible usefulness.

Summary of the Position.

In summarising the position he said that we might safely credit alcohol with the power of acting as an emergency food or source of energy, as a mild sedative and narcotic, and a superficial vaso-dilator. The fact that it was the only available narcotic which at the same time had a significant food value, might be held to give it a special position. On the lines of these demonstrable actions he believed that such therapeutic action as it possessed could be explained, and on these lines he believed its inclusion in the Pharmacopœia could be defended, even in, or perhaps especially in, a country which effectively prohibited its popular consumption. It had probably a definite limited place in therapeutics, but its value had largely been discounted by the tendency to its indiscriminate and unnecessary use.

Energy Derived from Alcohol.

In the course of the discussion Dr. E. MELLANBY spoke of the value of alcohol as a food, and dealt with the question as to the amount of energy which could be supplied to the body by alcohol and the relation which alcohol bears to the other energy-producing foodstuffs. Atwater and Benedict had shown that a considerable amount of energy could be obtained from the combustion of alcohol in the body. He thought that the 25 per cent. mentioned by Dr. Dale was too low an estimate. One gramme of alcohol on combustion gave out seven calories of heat, thus comparing favourably with proteins and carbohydrates, which each yielded 4·1 calories of available energy. Practically all the alcohol was absorbed and oxidised, so that, disregarding its toxic action for the time being, it was seen that alcohol could supply a considerable quantity of energy to the body.

Dr. Mellanby then exhibited a series of curves illustrating the results of various experiments which he had carried out. The first showed the rate of entrance into and of disappearance from the blood of alcohol in the case of a dog, into the stomach of which 50 c.cm. of diluted absolute alcohol were introduced. This was completely oxidised at the end of 20 hours, or at the rate of 2·5 c.cm. of alcohol per hour, showing that 1·04 calories of heat per kilogramme body-weight per hour were supplied by the alcohol, representing 40 per cent. of the total heat lost during the period. Another curve showed the result of an experiment performed on a man weighing 70 kg., from which it could be calculated that he oxidised 10 c.cm. of alcohol per hour, the alcohol furnishing about 54 calories per hour, or, roughly speaking, 1300 calories per diem, representing about 40 per cent. of his total energy loss. From another curve it was seen that the rate of disappearance of alcohol from the blood, which almost certainly represented its rate of oxidation, did not depend, within fairly wide limits, on the amount present in the blood. In this experiment a dog received on different occasions doses of alcohol varying from 20 up to 55 c.cm. It had been shown that the depression in the respiratory quotient produced by alcohol was the same whether 30 or 45 c.cm. of alcohol were drunk, but this condition did not hold good for carbohydrates or fats. This, then, was the first great difference between alcohol and other foodstuffs—the rate of combustion was not as dependent on the amount consumed. Seeing that the man above mentioned, when at rest, oxidised 10 c.cm. of alcohol per hour, if the constant rate of oxidation held even with very low concentrations, it was only necessary to give doses of the order of 10 c.cm. per hour to such a man to get the maximum amount of energy in unit time. The smaller the dose the less the toxic action; it was thus possible to get out of alcohol the maximum amount of energy in unit time, and eliminate most of the acute effects due to its drug action.

Alcohol had no power of stimulating metabolism; in other words, it had no specific dynamic action. Although it supplied heat it did not make any more energy immediately available for the body. It simply conserved the stores of protein, fat, and carbohydrate in the body. This was another great difference between alcohol and other foodstuffs. Not only did alcohol not increase the amount of energy immediately available to the tissues, but in consequence of the heat loss following vaso-dilation of the skin vessels a fall in body temperature might follow. More especially would this be the case if the dose of alcohol was so great that it narcotised the neuro-muscular mechanism and thereby directly diminished the heat production.

Another point of difference between the oxidation of alcohol and of other energy-producing foodstuffs was seen when the effect of exercise and mechanical work was considered. Exercise only increased its rate of combustion to an extent comparable with other foodstuffs when lower concentrations were present in the body. With high concentrations in the case of dogs exercise had no apparent effect in increasing the rate of combustion. He raised the question as to whether a substance which only supplied energy and with no other favourable metabolic characters was necessarily always of value to the body. It did not appear to him quite certain that alcohol, given in such a way as to eliminate or reduce to a minimum its drug effect, would extend the life of a man dying of starvation. Taken with other food it would undoubtedly help to convert a negatively balanced diet into a positive one, thereby conserving the proteins, fats, and carbohydrates of the body; but when taken as the only source of energy, which might well happen in some diseases, it was not self-evident that existence would be prolonged by it. A starving man or animal did not die because of the lack of energy-bearing material in his body. Whether, by increasing the amount of these substances as the result of giving alcohol, life would be prolonged, was to him a matter of doubt.

Alcohol-oxygen Vapour.

Dr. W. H. WILLCOX spoke of the value of alcohol as administered in the form of alcohol-oxygen vapour, and referred to the experiments of Professor B. J. Collingwood and himself which were carried out in 1909–10. He was convinced of the value of the mixture in cases of cardiac failure, the good effect of which was not due to oxygen alone. Collingwood in 1909 gave poisonous doses of chloroform vapour to animals. The administration of oxygen and CO_2 restored the respiration, but the heart failure continued. Oxygen was then used alone after the respiration had improved, but for the cardiac failure following chloroform it was found that a mixture of alcohol and oxygen produced a marked stimulating effect, the blood pressure in many cases rapidly rising to normal. With regard to the method of administration in his own cases the oxygen, contained in a cylinder, was bubbled through absolute alcohol, and thence by tubing and a funnel to the patient. Special face-pieces had been found to be a source of discomfort to the patient.

Experiments showed that the optimal percentage of alcohol vapour was about 4 per cent. by volume, and this could be obtained by using absolute alcohol, and having the inlet tubes below the level of the alcohol.

It was found experimentally that the quicker the oxygen bubbled through the greater the percentage of alcohol in the mixture. Rectified spirit (90 per cent. alcohol) had been used, but gave off a smaller percentage of alcohol. Whisky (pre-war) and brandy gave off a still lower percentage, which was too low to be of real value. It was desirable that there should be from 3 to 5 per cent. of alcohol.

Regarding the therapeutic effects, he had not noticed any special effect on the normal person, but there was a marked beneficial effect on patients with severe cardiac failure. It was extremely valuable to tide a patient over a short period. It should be given continuously for about ten minutes or longer, then for five minutes every half hour or hour as indicated. He had used it for cases of pneumonia, pleurisy, various forms of morbus cordis, chloroform poisoning, asthma, and cardiac failure. He had also used it in cases of profound toxæmia, such as cholera and typhoid, when the patient was collapsed, with bluish colour and rapid and feeble pulse. The colour improved quickly (probably due to the oxygen), the rapid pulse was reduced by about 20 beats, and the blood pressure rose by about 30 mm. Hg. In considering the mode of action, he said that the method of administration was an important point. With inhalation the action was very rapid, as was the case with amyl nitrite in asthma. Only small doses of alcohol were given, and therefore no harmful effects on the liver or kidney were likely to result. With regard to its mode of action as a cardiac stimulant, he would suggest tentatively that (1) it minimised the inhibitory impulses from the vagus and nerve centres; (2) there was a direct stimulant effect of alcohol vapour on the heart.

A Digestive Stimulant.

Dr. R. HUTCHISON said that the therapeutic effects obtained from alcohol corresponded more closely with its pharmacological action than was usual with drugs. As regards some of its effects, there would be general agreement amongst clinicians: 1. Alcohol is undoubtedly a food, and is of special value for this purpose in diabetes and in prolonged fevers. 2. It is a digestive stimulant, and is often useful in cases of impaired appetite, gastric atony, and in convalescence. The form in which it is administered has, however, a great influence on its digestive value. It is also useful as a carminative in cases of severe flatulence. 3. Its effect in dilating superficial blood-vessels is of use in combating the effects of chill, as well as in rigors and in helping to reduce blood pressure during an attack of angina. 4. Its narcotic action is helpful in some case of insomnia, especially in old people, and in cases of delirium and restlessness in acute illness. The chief point of controversy would be as to whether alcohol could be regarded clinically as a cardiac stimulant. In cases of acute heart failure, as in syncope and fainting, its action in reflexly stimulating the heart was certainly of great use, but in his opinion there was no clear clinical evidence that it acted as a heart stimulant in cases of acute infection. On the other hand, by calming the nervous system, counteracting delirium, and promoting sleep it might benefit the heart in a case of prolonged illness indirectly, and he therefore made use of it in such circumstances, though he was guided in prescribing it rather by the state of the patient's nervous system than by the pulse. As to whether alcohol increased the patient's resistance there was considerable difference of opinion, but his own view was that there was some reason to believe that in septic infections, at least, it had some power in this direction.

Its Value in Anorexia and Vomiting.

Sir WILLIAM HALE WHITE said that therapeutically alcohol was of value as a food in certain cases of anorexia and vomiting which were met with in phthisis and cancer. It must never be given in functional anorexia and vomiting lest a habit should be formed. It was of use as a food during the starvation period of diabetes. When in acute fever, anorexia, vomiting, or indigestion were present, it was an excellent food, for it required no digestion, was easily absorbed, and had the inestimable advantage of making the patient feel comfortable and sending him to sleep. The disadvantages were that sometimes he complained of headache after it, and in a few cases its soporific effect was slight. During convalescence alcohol was of value, especially in the form of a glass of wine taken with a meal. The patient was weak and "all on edge," which meant that he was worried by peripheral stimuli which would not have affected him in good health. A glass of wine would annul these without doing appreciable harm; it would promote digestion and make the patient feel better and more comfortable. He had never known an alcohol habit formed from taking it during convalescence. The therapeutic value of the effect on the circulation was very difficult to estimate except when it was given in concentrated form in order to rouse a patient from a faint; its action was then entirely reflex from the mouth and stomach. At present little or no alcohol was given in pneumonia, but he did not think that the outlook in this disease was better or worse than it had been, nor was he convinced that it did harm or good to the circulation. Even if alcohol had a beneficial effect on the respiration, this function was unimportant in the treatment of acute fevers, for in these cases death was nearly always due to cardiac failure. He thought that the chief therapeutic value of alcohol was as a pleasant depressant peculiarly efficacious in inhibiting peripheral sensations, such as slight pain and discomfort, and by its slight cerebral depressant effect, so diminishing the trivial worries that bother the sick. As such in small doses it was useful to the convalescent, in larger doses to the patient acutely ill, making him feel more comfortable; in larger doses still it made him sleep. For these uses it had the great advantage of being easily and rapidly absorbed. There were two difficulties to surmount in a discussion of this sort—(1) it did not follow that the effect of the drug was the same in health as in disease, and its effect in disease was often very difficult to estimate; (2) no sick person took a mixture of pure alcohol and water. Perhaps the other bodies present in wines and spirits had their actions. Certainly they were believed to have, for it was considered that brandy was the best form of alcohol for diarrhœa, and that old brandy had superior therapeutic effects.

Alcohol in Diabetes.

Dr. O. LEYTON said that it was extremely difficult to draw any conclusion as to the effect of alcohol administered to cases in which it was thought that the heart would cease to work and death would ensue from that cause. At the present day we had no method of determining whether the heart was likely to stop beating, and several cases in which that termination had been feared had died from respiratory failure. In prolonged diseases, such as typhoid fever, alcohol might prove a most valuable adjunct to dextrose and other easily assimilable substances, but the tendency to administer food in short fevers was ill-advised if the patient did not crave for food, for most individuals could live upon their own tissues for many days without detriment. In diabetes it had been his custom to order alcohol as a foodstuff during the period of very meagre diet, to those patients who had been accustomed to take alcohol in the past. There seemed to be two advantages in this: first, the supply of a small amount of energy; and secondly, the patients were less irritable, pangs of hunger were more easily borne, and the patients seemed to be able to stand treatment better. The less alcohol the patient took as a luxury the better, but a large number of cases of diabetes mellitus had come under treatment in which the maximum diet which they could take represented about 20 calories per kilogramme, or rather less than half that which was thought to be necessary for the patient to be able to maintain life and energy. It was in those cases, in his opinion, that alcohol was essential.

Dr. Leyton then gave an account of a woman of about 20 years of age who had been under his observation for nearly three years. She weighed about 5 st. 6 lb., presented an appearance of great emaciation, and was found to have a tolerance of only: carbohydrate, 20 gr.; protein, 45 gr.; and fat, 60 gr. If any one of these were increased sugar appeared in the urine. Since the diet was so meagre it seemed to

him hopeless to try to find one in which sugar in the blood was normal. This diet represented about 800 calories, or less than 25 calories per kilogramme. It was very unlikely that the patient would be able to enjoy her life on this diet, and he therefore added to it slowly and gradually 2 oz. of absolute alcohol daily. Absolute alcohol was chosen because the patient intensely disliked brandy, whisky, gin, or other alcoholic beverages. The absolute alcohol was ordered to be given well diluted and to be taken with meals, for by giving it with meals it was absorbed more slowly and was less likely to produce any excitement or somnolence. During the last year or so an improvement on dilution with water had been made by incorporating the alcohol into a jelly made with agar and flavoured with citric acid, oil of lemon, and saccharin. This jelly without alcohol was, as far as he knew, of no nutritive value, but tended to satisfy hunger. From it the alcohol diffused out comparatively slowly and was slowly absorbed, so that in many ways it was an ideal method of administering it. The addition of 2 oz. of alcohol to the diet increased its value by 300 calories, so that the energy of the diet was increased to 30 calories per kilogramme, which experience had shown was sufficient to allow an individual to take exercise and gain weight extremely slowly. This patient was now able to walk six miles daily. He had come to the conclusion that alcohol was a necessity in some of the more advanced cases of diabetes mellitus, and he had on record patients who had maintained their weight whilst taking alcohol, but who had lost weight after they had stopped taking it, the diet having been maintained constant in every other respect. In diabetes the metabolism was extremely unstable, and care must be taken in drawing conclusions. When a patient was on a small diet and sugar free a slight disturbance, such as inoculation with a vaccine for influenza, streptococci and pneumonia, might lead to the appearance of sugar in the urine, and any infection or even emotional disturbance might produce the same effect.

Professor W. DIXON thought that, with regard to alcohol, the question of the definition of the word "food" was academical. If other foodstuffs were spared it came to the same thing. Hamill had found that the isolated heart could oxidise alcohol, and that alcohol could be substituted to some extent for glucose in Ringer's solution. Not only was alcohol absorbed with ease from the stomach and intestines, but it facilitated the absorption of other foodstuffs given with it.

Dr. W. LANGDON BROWN said that opinions on the therapeutic value of alcohol had been very much governed by tradition in the past, and he thought the discussion that afternoon proved that tradition still held sway, so that it was difficult for clinicians always to give definite ground for the faith that was in them on this subject. There were four types of cases where he felt alcohol could be of therapeutic service: 1. In the fasting treatment of diabetes, where energy could be obtained from alcohol and the calorie value raised to a more reasonable figure. 2. Dilute alcohol was found by Bickel to be one of the direct chemical stimulants of gastric juice, the others being meat extracts, condiments, and aerated waters. 3. He believed, with the President, that alcohol was often very useful in removing nervous inhibition, and thus contributed to the patient's comfort. 4. Like Dr. Willcox, he thought that the administration of oxygen over brandy contributed to the recovery of some cases of pneumonia. But the fallacy inherent in all attempts at exact estimate of therapeutic conclusions on clinical grounds was the absence of controls.

Effects in Children.

Dr. M. ESTHER HARDING said that children were valuable in estimating the effects of alcohol, because the æsthetic effects might be entirely discounted. In the case of children the uses of the drug fell under the same headings as in adults. 1. In respiratory embarrassment, especially the rapid, shallow, inefficient breathing of broncho-pneumonia, alcohol quieted the respiration and so made it more efficient. It was true that the indication for the use of alcohol was commencing failure of the right heart, but the effect of the drug was not to flog the already over-burdened heart, but to relieve it of some of its intolerable burden by slowing the respiration and improving the oxygenation of the blood. 2. Alcohol was, in her opinion, the most valuable sedative and hypnotic drug we possessed for infants and young children. 3. As a food in cases where no ordinary diet could be taken: (*a*) in milk intolerance of marasmic infants alcohol would sometimes tide a patient over a few days till milk or whey tolerance could be re-established; (*b*) in the persistent late vomiting which killed so many patients after severe diphtheria. She had kept a child alive on more than one occasion under such circumstances on saline, brandy, and sugar, given by the stomach, for three weeks. A word of warning on the danger of the persistent use of alcohol in young children was hardly needed, but it was wise to remember that small doses of spirit given to an infant over a period of weeks might easily result in damage to the liver.

SECTION OF OPHTHALMOLOGY.

EXHIBITION OF CASES AND SPECIMENS.

A MEETING of this section of the Royal Society of Medicine was held on Feb. 4th, under the presidency of Mr. W. T. HOLMES SPICER.

Mr. G. WINFIELD ROLL showed a patient, aged 27, with New-formed Vessels on the Iris, the condition having existed since infancy. In the right eye were a number of vessels on the front of the iris, radiating from the periphery to the margin of the pupil. The eye was blind and somewhat disorganised, and as it had recently become painful the patient was anxious to have it removed. Her good eye had two areas of coloboma in the fundus, the one below the disc looking like a congenital coloboma of the choroid. A floating band came forward to the back of the lens, but it could not be traced to its attachment. The eye was highly astigmatic.

Mr. TREACHER COLLINS'S view was that it was a persistence of the fœtal vascular system, and he believed removal of the eye would disclose a patent central hyaloid artery.

The PRESIDENT referred to several similar cases which he had seen. One was an old iritis and cyclitis case, and this was followed by increased tension. He wondered at the time how far the prolonged use of eserine had increased the growth of the vessels.

Mr. HUGH THOMPSON showed a patient with Macular Detachment of Retina, probably due to a new growth. There had been a regularly increasing grey detachment, but no increased tension. The site, he believed, was an uncommon one for new growth.

Pulsating Exophthalmos.

Mr. H. GRIMSDALE described a case of Pulsating Exophthalmos, which Mr. Frost showed in 1883. Sixty-five years ago the drumming sound in his head was set up by being run over by an empty van. The left eye was prominent, but he never noticed any diplopia. Mr. Grimsdale raised the question whether the statement so frequently made in books, and in the literature generally, that paresis of the third nerve was the prominent feature in these cases, was correct. In the few cases of it he had seen it was the sixth nerve which was most markedly affected. This man had complete paresis of both sixth nerves. It was what would naturally be expected, as the sixth was within the area of pressure.

Mr. C. HIGGENS spoke of two cases which started with the onset of labour. They recovered in a few months without special treatment.

Mr. J. H. FISHER agreed that the sixth was the nerve most likely to be involved in these cases, and entered into the anatomical reasons for it.

Gunshot Wound of Occipital Lobes.

Mr. NORMAN B. FLEMING showed a case of gunshot wound implicating both occipital lobes, the patient having been blind for four days after the receipt of the injury. Fragments of bone and metal were removed at the casualty clearing station. His present complaint

was of headaches, giddiness, slight deafness on the right side, and some loss of sight, but central vision is acute. The fields show a sharply defined hemianopia below in each eye, with a considerable reduction of the peripheral part of the upper field.

Mr. FISHER spoke of a similar case which he saw in the Boer War and detailed the findings. He considered there was direct lacerated damage to one half and concussion effects on the other, probably causing œdema and punctiform hæmorrhages.

Mr. N. BISHOP HARMAN showed a case of new growth in the eye, which was becoming increasingly painful. The general view was that it was a glioma and should be removed.

THE RADICAL CURE OF GONORRHŒAL IRITIS.

Mr. S. H. BROWNING, bacteriologist to the Royal London Ophthalmic and All Saints' Hospitals, contributed a paper on this subject. He said that gonorrhœal iritis, being a late sequela of gonorrhœa, was not usually seen at first hand by venereal disease specialists, hence it was often not treated as a local affection. He contended that very few, if any, cases of gonorrhœal iritis ought to occur, and certainly there should not be recurrent cases if proper treatment were carried out. His object in reading the paper was to show that by thorough treatment of the genito-urinary tract in subjects of gonorrhœa the iritis would be permanently cured. He regarded gonorrhœal iritis as a toxic condition, that it was not due to the actual presence in the eye of the gonococcus. In only one case had the organism been isolated from the eye itself, and that was in Sidler-Huguenin's case, in which it was discovered in the blood-stained exudate from the anterior chamber of a case of gonorrhœal septicæmia. The author had himself tried many times to cultivate the organism from the exudate within a few seconds of it being drawn off, but had always failed. In these cases there was usually a history of gonorrhœa some years previously; he had never seen a case of iritis during the acute stage of urethritis, and others had confirmed this, on the observation of many thousands of cases. There is, in these cases, a specific reaction to gonorrhœal vaccines. It is not invariably associated with gonorrhœal rheumatism. There is a recurrence of the iritis, or an exacerbation of the symptoms after prostatic and vesicular massage, probably on account of toxins being thereby liberated into the blood-stream. The diagnosis is also helped by eliminating such sources of infection as pyorrhœa, septic tonsils, ear trouble, cystitis, and alimentary affections. The complement-fixation test had not given reliable results in his hands.

He considered treatment under two heads: preventive and radical. The first of these rested with those who saw such cases early; he laid great stress on the need for thoroughness at the hands of a genito-urinary specialist, for in that case he believed there would be no such condition as gonorrhœal iritis. Though vaccines did not materially shorten the acute stage of the disease, complications and sequelæ were largely prevented by their use. The radical treatment should consist of (1) immediate treatment by the ophthalmic surgeon; (2) the immediate use of vaccines; (3) continued treatment by vaccines and prostatic and vesicular massage, with, if necessary, treatment of the urethra. While an autogenous vaccine is being prepared, he urged the use of suitable doses of a reliable mixed vaccine. Some of the loss of repute of vaccine therapy in this connexion he attributed to the haphazard use of commercial vaccines. The proper dose of vaccine varied with each patient; his own range of experience varied between 5 millions and 500 millions. Vaccine therapy was no more than an aid to medical and surgical treatment; it was not a substitute.

Mr. Browning then proceeded to outline the proper method of carrying out massage of the prostate and vesicles. He did not think iritis was often due to other bacteria found after massage, such as staphylococci, *B. coli*, diphtheroids, &c. He had not met with a case of gonorrhœal iritis in a female. He narrated the leading facts in the histories of ten cases which he had carefully followed out, and which bore out his contentions; he had notes of 47 cases of the condition.

Discussion.

Mr. C. H. MILLS considered that no prostatic or vesical massage should be carried out until the acute stage of the iritis had subsided, nor should vaccine treatment be commenced until then. Massage resulted in a large dose of the toxin being liberated into the blood-stream. Any source of co-existing sepsis in the patient should be carefully searched for. A patient with both gonorrhœa and pyorrhœa was very likely to have joint trouble or other metastases. All cases of iritis in people who had a septic focus in the prostate or vesicles were not necessarily of gonorrhœal origin; he believed that in many such the original gonococcal activity had died out, and the lesion was perpetuated by a mixed infection on the original site of damage. He referred to the work of Colonel Young, of the American army, in his effort to trace a connexion between rheumatoid arthritis and chronic vesiculitis. In the majority of cases of vesicular trouble Colonel Young had isolated a streptococcus. Mr. Mills said he considered that 80 per cent. of the adult population of towns had had gonorrhœa. When the iritis occurred not more than three or four years after the gonorrhœa the cure was very hopeful, as the patient was usually capable of a generous production of antibodies.

Mr. HIGGENS narrated the histories of two long-standing cases which had had many recurrences of iritis over a number of years. Only one had vaccines, but in both the attacks ceased at about the sixtieth year, which probably meant that the stock of toxin had been used up and no further dose was acquired.

Mr. BISHOP HARMAN raised the question of carriers of the disease, and asked whether the fact that the disease was not conveyed to another after massage had been practised meant that after this process the gonococcus was sterile.

Mr. C. B. GOULDEN challenged Mr. Browning's contention that gonorrhœal iritis was not due to the actual presence of the organism in the eye.

Mr. WM. LANG discussed the justifiability of slitting up the vas deferens for the purpose of injecting argyrol.

Mr. WHITING spoke of the definite negative phase which followed a dose of vaccine, and was sometimes alarming for a time. But, unlike the similar phase in tuberculosis following the use of tuberculin, he had not seen a disastrous result from it. A marked positive phase followed, and with the continued use of the vaccine and the ordinary eye treatment for the iritis, the case progressed satisfactorily. He had not seen bad results follow the use of vaccine in the acute stage of iritis, at least for more than 24 hours.

Mr. FISHER asked as to the respective rôles played by vaccines and by prostatic and vesicular massage. If both were really necessary they should be carried out hand in hand.

Mr. MILLS, in the course of his reply, said that in nearly 100 per cent. of cases the posterior urethra was infected by the twelfth day, and it occurred especially early when syringes were being used by the patient himself. He had seen acute prostatic involvement within a month of the primary infection. Gonococci might be encysted, and in that way be carried about for years, and apparently without infecting others. Surgical exposure of the vas in this condition he regarded as a very drastic procedure and never necessary. He recommended distension of the bladder with 1 in 4000 permanganate, so that it could deal with organisms entering the viscus during or following the massage. Investigations on the subject of "protein shock" had shown the capacity of foreign protein to awaken the tissues out of a habitual lethargy and enable them to deal successfully with a microbic invasion.

Mr. BROWNING also replied, pointing out that patients at once began to improve as soon as they got over the negative phase; the iris went on to recovery in an extraordinary way. He thought gonococcal vaccine should be used, not necessarily sufficient to produce a severe reaction, but to stimulate the production of antibodies.

SECTION OF LARYNGOLOGY.

EXHIBITION OF CASES AND SPECIMENS.

A MEETING of this section of the Royal Society of Medicine was held on Feb. 6th, Mr. MARK HOVELL in the chair.

Naso-pharyngeal Tumour.

Mr. CHARLES CUTHBERT showed a Naso-pharyngeal Tumour which he had removed by lateral rhinotomy. The patient, a man aged 30, had intense headache and dyspnœa, and a tumour protruded from the right anterior naris, and occupied, too, the left naris, and projected into the naso-pharynx. There had been several severe hæmorrhages. The laryngotomy was performed under novocain anæsthesia, followed by a general anæsthetic through the laryngotomy tube, the pharynx being plugged. The modified Moure's operation secured good exposure of the nasal cavities. Bleeding was controlled by Crile's clamps on both external carotids. Though an extension of the growth had penetrated into the frontal cavity of the skull the dura mater appeared not to have been injured, and no cerebro-spinal fluid escaped. The microscopist reported the tumour to be an adeno-fibro-myxoma.

Sir WILLIAM MILLIGAN referred to the value of Kuhn's peroral intubation tubes for intratracheal anæsthesia in these cases.

Mr. H. TILLEY asked as to the actual origin of the tumour. He recommended the turning up of the cheek and removing both ascending maxillary processes, which gave a good view of the area of operation, and rendered unnecessary the procedure adopted in this case; moreover it did not expose either external carotid.

Mr. W. STUART-LOW considered that the route through the antrum was a very good one in these cases, and it was not his practice to perform laryngotomy.

Mr. E. D. DAVIS congratulated Mr. Cuthbert on having ligatured both external carotids, as tying one only in the case of such a large growth he had found ineffective.

Dr. W. HILL pointed out that the carotids were only clamped in this case, and he thought there was a wider field of usefulness for these clamps.

Dr. P. WATSON-WILLIAMS hoped it would not go forth that ligature of only one external carotid was of no use; he had found a marked inhibiting effect in malignant growths of one tonsil from the ligature of one carotid.

Mr. W. DOUGLAS HARMER said in some of these cases the tumour proved to be fibro-angioma, a very vascular kind of tumour. Some of them had been fatal solely on account of the furious hæmorrhage. He thought Mr. Cuthbert had adopted the safer procedure. The method of approach he did not regard as nearly so important as securing a thoroughly good exposure.

Mr. C. W. HOPE referred to a case of angeio-fibroma in which the severity of the bleeding compelled a cessation of the operation for a fortnight, and when the tumour was examined microscopically it was found to have enormous blood spaces.

Dr. IRWIN MOORE alluded to the rarity of adenomatous or mixed adenomatous growths of the nares, and considered that this was a nasal growth arising from the middle turbinal or ethmoid region, and as such should be classified and described as a nasal growth extending into the naso-pharynx. This was important for the correct indexing of recorded cases. In the case of benign growths there was not usually much hæmorrhage, but he thought Mr. Cuthbert had kept on the safe side in preparing for such an emergency.

Sir STCLAIR THOMSON referred to the advantages of Moure's operation and exhibited drawings showing the satisfactory exposure of the growth obtained. He also referred to two cases of malignant growths he had operated upon by this method, one patient being alive and well six years, and the other three years, after operation.

Mr. CUTHBERT also showed a youth of 19, on whom thyroidectomy had been done for exophthalmic goitre. During the operation the pulse-rate varied between 180 and 200. He got well, and, until he was killed in France, was very active.

Pharyngeal Diverticuli.

Mr. S. HORACE LAW reported two interesting cases of Pharyngeal Diverticuli, one associated with the impaction of a foreign body. The outstanding feature of both cases was the increased salivation and the difficulty of disposing of the fluid. The hyper-secretion became normal in the one case after removal of the foreign body, and in the other after the operation of removal of the pouch. The ages of the patients were 53 and 70.

Dr. W. H. KELSON called attention to the importance in the removal of these pouches of passing a guide either before or immediately after giving the anæsthetic, because these patients were often in an exhausted condition, and time became important.

Dr. HILL spoke of the extreme thinness of the wall in some of these pouch cases, and hence the danger of rupture by the passage of a tube.

Dr. IRWIN MOORE advised coöperation between the general physician and the laryngologist, which would result in these cases being seen and treated much earlier.

Dr. J. DUNDAS GRANT described similar cases, and spoke of the importance of X ray examinations.

Mr. G. H. LAWSON WHALE showed a case of Rhinoplasty in a man who had been severely wounded in France, and received the congratulations of several members on his result.

Malignant Disease of the Upper Jaw.

Mr. HOPE showed a case of Malignant Disease of the Upper Jaw, for which lateral rhinotomy was performed. The growth was found to be epithelioma, and a section was shown. It started apparently in the ethmoid region, involving ethmoid, antrum, bony orbital floor, malar bone, and soft tissues in the pterygoid region. Hæmorrhage was practically nil, and progress uninterrupted. Radium had been applied since, and seven months later there was no sign of recurrence.

Dr. D. R. PATERSON thought it important to obtain permission from the patient before the operation to sacrifice the eye, if that proved necessary in order to remove the whole disease.

Laryngeal Case for Diagnosis.

Dr. ANDREW WYLIE showed a laryngeal case for diagnosis, which Sir WILLIAM MILLIGAN believed to be a post-cricoidal carcinoma, and with that view Mr. TILLEY agreed.

Dr. PATERSON said the case illustrated the type of condition he drew attention to in an address before the summer congress of the section—namely, a long history of dysphagia, with smooth glossy tongue and cracks in the lips. Dr. Thomas Guthrie, of Liverpool, had since declared this sequence to be quite common.

Actinomycosis of Tonsil.

Dr. POTTER exhibited a case of Actinomycosis of the Tonsil.

Major PARRY said it had been successively regarded as syphilis, diphtheria, and Vincent's angina, and some thought it might be epitheliomatous. The whole tonsil was found to be infiltrated with the parasite. He discussed the subject from the standpoint of the pathologist.

Copper Alamine in Lingual Cancer.

Dr. JAMES DONELAN again showed a man, aged 65, whose lingual cancer appeared to have been checked by treatment with copper alamine.

Dr. DAN MCKENZIE spoke of the cleaning-up influence of the copper alamine and its freeing of the area from septic material. This was probably a large part of the apparent benefit, and the same could be said of diathermy, which had a similar cleansing effect, and cancerous progress seemed to be much slower in consequence.

Mr. DOUGLAS HARMER agreed that cancer did not progress so fast in clean surroundings.

Atrophic Catarrh of Trachea.

Mr. L. COLLEDGE showed a patient with Atrophic Catarrh of the Trachea. Wassermann reaction was negative.

Mr. STUART-LOW urged that the man should leave his dusty warehouse occupation.

Mr. J. F. O'MALLEY recommended small doses of vinum antimonialis, and Dr. IRWIN MOORE suggested ammonium chloride in solution, applied by means of a powerful atomiser.

The Galvano-cautery in Laryngo-fissure.

Mr. G. W. DAWSON showed a patient on whom laryngo-fissure was performed four months ago. The galvano-cautery was applied for the troublesome bleeding which occurred during operation.

Mr. TILLEY and Dr. IRWIN MOORE objected to the use of the galvano-cautery to check hæmorrhage in laryngo-fissure owing to the sloughing which ensued and the danger of secondary hæmorrhage.

? Papilloma of Larynx.

Mr. H. BUCKLAND JONES showed what he regarded as probably a Papilloma of the Larynx. He invited opinions as to its malignancy.

Sir STCLAIR THOMSON referred to the difficulty of diagnosis in such conditions, even though a piece were removed for the purpose. This seemed well defined and limited for a simple papilloma.

Mr. LAWSON WHALE mentioned a case in which a well-known laryngological pathologist could not be sure of the diagnosis. The growth was removed and proved to be malignant.

Dr. KELSON showed a case of Ulceration of Pharynx and Larynx. There was no history of syphilis, and no tubercle bacilli were found. The left arytenoid and left ventricular band were markedly œdematous.

THE International Society known as "Pneumothorax Artificialis" has been revived. It was founded at the Rome Tuberculosis Congress to form a link between those in all countries practising nitrogen replacements, so as to ensure continuity of treatment on the patient's change of residence. The secretary is Professor U. Carpi, of Lugano.

RÉUNION OBSTETRICALE ET GYNÉCOLOGIQUE DE MONTPELLIER.—At Montpellier the sittings of the Obstetrical Society have now been regularly resumed, and a number of interesting communications were read at two recent meetings. At the first M. Guerin Valnale described a case of Pregnancy with Inoperable Carcinoma of the Cervix. Labour was premature, a child weighing less than 1600 g. was delivered by Cæsarean section. Subtotal hysterectomy was then done, and there was marked arrest of the rate of growth of the tumour for three months afterwards. In the discussion which followed M. Vallois said he had practised in similar cases Cæsarean section followed by Porro's operation.—M. Vallois described a case of Convulsive Movements in the Left Arm in a baby a few days after its delivery with forceps. A portion of the right parietal bone was removed and a collection of blood evacuated after opening the dura mater. Complete recovery followed the operation.—M. de Rouville read the notes of a case of Tubal Abortion with the formation of a hæmatocele between the uterus and the bladder. Firm adhesions of the lower border of the great omentum to the posterior aspect of the left appendages determined the rare situation of the blood collection. There was no trace of blood in Douglas's pouch.—M. de Rouville also described a case of Complete Inversion of the Vagina following vaginal hysterectomy for complete prolapse of the uterus. He performed total excision of the vagina and restored the perineum in layers. The operator discussed the case and the methods of treatment.

At the second meeting M. de Rouville and M. J. Cohen described two cases of Ovarian Grafting, with the results that followed. In the first case both breasts increased in size, and became painful at the menstrual periods. The latter, which were quite regular at first, became irregular later, and metrorrhagia also occurred. Nervous symptoms were less intense. The grafts were removed on account of the hæmorrhage, with the result that all bleeding ceased immediately. Microscopic section of the grafts showed them to be active but degenerating. In the second case menstruation was quite regular three months after the operation and remained so for six months. No breast changes were observed. There was excellent health for a year, followed by pains in the left iliac fossa, which necessitated a second operation five and a half years after the first. Adhesions were freed round the left appendages, and subtotal hysterectomy was done. Macroscopic and microscopic section of the uterus showed "sclerotic and atrophic" changes; thus it was concluded that menstruation after grafting was due to the grafts and not to supernumerary ovaries. In each case the grafts were autogenous, and was placed in the subcutaneous tissue of the abdominal wall.

Reviews and Notices of Books.

DISEASES OF WOMEN.

By Ten Teachers. Under the direction of COMYNS BERKELEY, M.A., M.D., F.R.C.P., Obstetric and Gynæcological Surgeon to the Middlesex Hospital. Edited by COMYNS BERKELEY, H. RUSSELL ANDREWS, and J. S. FAIRBAIRN. London: Edward Arnold. 1919. Pp. 650. 30*s*.

THIS is a companion to the book on Midwifery by the same Ten Teachers. As the authors point out in the preface, there is more room for diversity of opinion in an account of the diseases of women than there is in a text-book on midwifery, and consequently it has been more difficult to give a collective opinion in some parts of this book. An attempt has been made to approach the subject from the point of view of State medicine, and to develop the preventive attitude in the mind of the student. With this object a précis of the report of the Royal Commission on Venereal Disease has been included. A chapter on the part played by the psychological factor in the ætiology of pelvic disease has also been introduced. The book forms a sound guide to the student on diseases of women, and will no doubt be as widely read as the companion volume on Midwifery.

A special section is devoted to the main symptoms associated with diseases of the pelvic organs, and in this the chapters dealing with dysmenorrhœa and abdomino-pelvic pain are excellent. On p. 169 there is an interesting diagrammatic drawing of the manner in which shortening of the utero-sacral ligaments is supposed to produce acquired anteflexion; we should like to ask the authors if any one of them has ever met with the condition delineated in the drawing. It is a curious fact that when the abdomen is opened in cases of old chronic pelvic cellulitis this condition is not met with, and we very much doubt whether anteflexion is ever produced in this way. Has it been seen either in the post-mortem room or on the operating table? The chapter on endometritis is on modern lines, and should give the student a good idea of what is meant when this term is employed. The authors believe that there is such a condition as chronic endometritis, and that the thickening of the endometrium, associated with it, may be taken to represent the overgrowth moiety of a past chronic inflammatory process. They do not believe that the thickening in the great majority of these cases is due to overgrowth from chronic congestion. In the chapter on chronic metritis they distinguish clearly between the two types, one corresponding to subinvolution and the other to a pure hypertrophy of all the elements of the uterine wall. We notice a slight error on p. 224—"symphysis pubis" should, of course, be "pelvic brim"; the normal uterus is never below the level of the symphysis pubis, using these words, as they should be used, in their proper anatomical sense.

In the treatment of retroflexion of the uterus after delivery the recommendation is made to introduce a ring pessary; we suggest that a Hodge pessary acts better in these cases, and has the advantage that it does not stretch the vagina so much, and therefore has less tendency to produce subinvolution of that canal. There is a very good discussion on the relative advantages of early and late operations in cases of inflammation of the appendages, and both views are well presented. The treatment of a uretero-vaginal fistula is not of much importance from the student's point of view, but we doubt the statement that the best operation is to open the abdomen and to attempt to implant the cut ureter in the bladder; a number of these cases have now been cured by plastic operations on the vagina, and this should have been mentioned. We cannot agree with the statement that treatment with radium is not so successful as X rays in relieving the symptoms due to fibroid tumours; we believe it probable that in the future treatment with radium will play a larger part in the cure of the hæmorrhage due to fibroids.

The chapters dealing with cancer of the body and neck of the uterus are particularly good, and should be

most helpful to the student. The authors prefer the term cystic embryoma to that of dermoids of the ovary, and favour the view of their origin by fertilisation at a later date of primordial ova in the ovary of the developing embryo (epi-embryogenesis). They might have added that this suggestion explains the frequency of ovarian dermoids and the great rarity of dermoids within the testis. The chapter on neurasthenia in association with diseases of the pelvic organs will help the student to understand how often in minor pelvic ailments it is more important to treat the patient than her pelvic organs. The sections describing the various operative procedures are sufficiently full and the illustrations are clear.

This is a good book, reflecting great credit on those who have contributed to it and supervised it.

THE PRINCIPLES OF GYNÆCOLOGY.

By W. BLAIR BELL, B.S., M.D. Lond., Gynæcological Surgeon, Royal Infirmary, Liverpool, &c. Third edition. London: Baillière, Tindall and Cox. 1919. Pp. 660. 38*s*.

IN the preparation of this third edition Dr. Blair Bell has rewritten a considerable portion and added much material and many new illustrations. The pathological arrangement of the book has been retained, and the author has wisely not attempted to describe the many variations in technique of different surgeons in the section on operative procedures. The appearance of a third edition of this text-book within nine years proves that it has met with appreciation.

The first section dealing with the evolution, development, and anatomy of the female pelvic organs is good; it is, indeed, in our opinion, the best description of this subject to be found in any English text-book of gynæcology. It is interesting to note that the author does not believe that the so-called vascular caruncle is an angioma; rather he thinks it is an infected papilloma, containing generally no adenomatous tissue. An erosion of the cervix is regarded as an adenoma, and is recommended to be treated by excision or scraping; in the same way the condition called in some text-books chronic hypertrophy of the endometrium and in others endometritis, Dr. Blair Bell terms a diffuse adenoma of the endometrium, rejecting the term endometritis altogether. It is a pity that this condition should be described in so varying a manner by the authors of most of the popular text-books, so that in one book the student is taught to look on these conditions as due merely to an abnormal persistence of the normal ante-menstrual congestion, in another that they indicate a condition of chronic inflammation, while in a third they are described as innocent neoplasms of the genital tract. Little wonder that the average student is very confused on the subject. In the surgical treatment of fibromyomata of the uterus the author is in favour of supravaginal hysterectomy, with the retention of the ovaries and sufficient endometrium to ensure subsequent menstruation. It is unfortunate that the tumours generally known as adenomyomata and adenofibromyomata are described in this work as endometriomyomata and endometriofibromyomata, although as they are relatively unimportant it is not of much moment.

In considering the prophylaxis of carcinoma of the cervix great stress is laid upon the importance of repairing lacerations of the cervix and of adequately treating chronic cervicitis, the two most powerful predisposing factors in the development of these growths. We are glad to see that Dr. Blair Bell makes a plea for greater simplicity in the classification of carcinoma of the body of the uterus. We quite agree that the minute distinctions made by some authors are unnecessary and misleading to the student. The section dealing with gynæcological operative procedures is sufficient and well illustrated, as, indeed, is the book as a whole.

This is a distinctly good and well written work, bearing the imprint of the author's personality, and therefore much more interesting to read than many colourless compilations.

FIELD AMBULANCE ORGANISATION AND ADMINISTRATION.

By JAMES HARDIE NEIL, Lieutenant-Colonel, N.Z.M.C. London: H. K. Lewis and Co., Ltd. 1919. Pp. 125. 4*s*. 6*d*.

THIS little book consists of a condensation and extradition of matters relating to field ambulance management from official manuals and orders with addition of a great deal of most valuable suggestions and scheduled routine duties and regulations based on extensive personal experience in the field. Colonel Hardie Neil's name was known up and down the line wherever the New Zealand Division wandered, and his keenness and energy in everything that appertained to the maintenance of a healthy mind in a healthy body was well known. It is difficult to imagine how his activities as an efficient commanding officer, captain of a doughty cricket XI., and manager of a concert party could have permitted sufficient time for the collection and arrangement of the large quantity of valuable material that is contained in this little book. No single item of field ambulance work, whether in the line or at rest, appears to have been overlooked.

The author is to be congratulated on the publication of a small book, entirely free from padding, and full of information that cannot fail to be of great assistance to all field ambulance officers. Many will feel sorry that it was not available in the days when they had real need of such a vade mecum.

THE LETTERS OF A WIDOWED PHYSICIAN TO HIS DAUGHTER.

London: Baillière, Tindall, and Cox. 1920. Pp. 64. 2*s*. 6*d*. net.

THIS is an excellent little book, comprising within its 64 pages more common-sense than is found in many more pretentious treatises. It is published in four separate sections, which, says the author, can be handed out to their recipients at the proper ages—i.e., at puberty (12½ years), at maturity (18 years), at marriage, and at motherhood. The information and advice given are very plain-spoken, but withal duly reticent and dignified, and the only exception that we can find to take is that as the girl to whom the letters are addressed is advised by the author "to let your sisters know about it"—i.e., the oncoming of menstruation, we should have thought that her father need not have told her so much about it, unless she were an eldest or an only daughter. However, perhaps this is hypercriticism, and the book as a whole is admirable. Especially so is the section on matrimony, for even nowadays many a girl plunges into matrimony with only the haziest ideas of what the estate implies, with the consequence that difficulties arise which sometimes lead to two lives being ruined. Against such tragedies as these this little book might be a safeguard.

THE SOUL IN SUFFERING.

A Practical Application of Spiritual Truths. By ROBERT S. CARROLL, M.D. New York: The Macmillan Company. 1919. Pp. 242. 8*s*. 6*d*.

WHO first gave this opinion of a book, for it has many attributions: "Those who like this kind of book will find this book the kind of thing they like"? We can say the same of Dr. Carroll's work. He tells us that it "stands for medical ideals reaching out to Christian ideals, that one of the greatest problems of human existence—the problem of suffering, which through the ages has been so pitiably solved by the many—may be a bit more worthily met by all mankind." The problem of suffering is indeed one which is a great mystery, and one which so far has not yet been solved, and we cannot see that Dr. Carroll brings any light to bear on the difficulties. Platitudinous truisms, such as that most elderly people eat too much, that work is better than idleness, that a merely material life is not, or should not be, the only aim of humanity, are things to be remembered, but they do not go far towards helping the suffering soul.

SYPHILIS IN CHILDHOOD.

By LEONARD FINLAY, M.D. London: Henry Frowde and Hodder and Stoughton. 1919. Pp. 154. 8s. 6d.

THE author supplies an excellent and up-to-date survey of the lesions commonly seen in syphilitic children. Although primarily intended for those occupied with the clinical manifestations of syphilis, Dr. Finlay has not neglected to touch on such interesting topics as infection of the child in the absence of disease of the mother. It is impossible, in the author's opinion, to give a definite answer one way or the other to the question of paternal syphilis. More information is required before a decision on this point can be arrived at. At the same time it must be admitted that some clinical histories—e.g., those referring to women becoming pregnant in turn to syphilitic and non-syphilitic men, suggest that infection of the child may sometimes occur in the absence of infection of the mother. The question is of great interest, but one concerning which it is extremely difficult to obtain reliable information.

After describing the various lesions encountered amongst syphilitic children, the author discusses the relation of this disease to marasmus, the splenic anæmia of infancy, and Mongolian idiocy. In his experience the connexion between syphilis and the latter conditions is very doubtful. The author employs for the administration of salvarsan to infants the technique described by Norgerrall, preferring injection into the veins of the scalp to intramuscular medication. He rightly emphasises the importance and efficacy of antenatal treatment, and agrees with all those who have any experience in this matter as to the extremely satisfactory results thereby obtained.

The book is well illustrated, and contains some excellent reproductions of radiograms. The coloured plates are equally good. We recommend the book to all engaged in child welfare and in combating venereal disease.

LEHRBUCH DER PHYSIOLOGIE DES MENSCHEN.

Herausgegeben von N. ZUNTZ und A. LOEWY in Berlin. Leipzig: F. C. W. Vogel. 1920. Mit 302 Abbildungen und 3 Tafeln. Dritte verbesserte Auflage. Pp. 789. M. 38.

THE first edition was published in 1909, and of the original collaborators three have since died—Professors Nagel, Schenk, and Langendorff. Professor Verworn (Bonn) writes a short chapter on the lines of his "General Physiology." The chemical constitution of the body and the morphology and chemistry of the blood on the usual lines are supplied by Professor J. Müller, of Dusseldorf; the general physiology of muscle and nerve by O. Weiss, of Königsberg; the central nervous system by the veteran, Professor Sigm. Exner, of Vienna. Other chapters on the various branches of physiology are each supplied by a specialist.

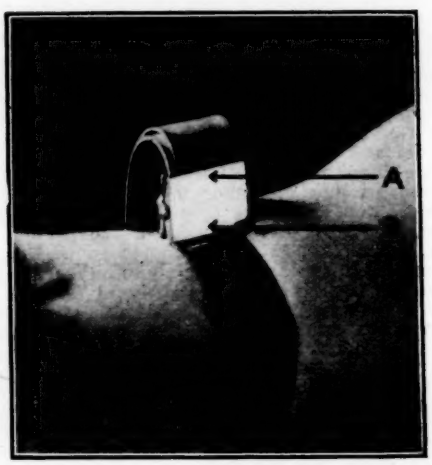
The amount of information of a purely physiological character—for there is but little histology—is very extensive, more especially when it is noted that the size of the page is relatively large, while there is a considerable percentage of small type used. Taken as a whole, this text-book will be found useful for reference, but the average student, German or other, will most likely be content with the large text or a part thereof. Exner's article on the central nervous system would have been improved by the introduction of a few more diagrams, more especially to elucidate conduction in the cord. Hypnosis and allied subjects receive more attention than in English text-books. The chapters on the senses, by Dr. Von Kries, are excellent. Some of the more recent work by English investigators does not seem to have found its way into several sections—for instance, into the article on the circulation, nor could we find much on aviation and the effects of high altitudes in this regard. The chapter on digestion is comprehensive. One of the best articles seems to us that by Metzner on Endocrine Glands and Internal Secretions. Whatever is said about vitamines in the text, this word is not to be found in the index. Perhaps the secretion of urine might have been more fully dealt with, and the same remark applies to the cerebellum and spinal cord.

This is practically a treatise on pure physiology, with little reference to the applications of this subject to practical medicine. It is a compendium of physiological facts and doctrines well suited to one who already possesses a more than elementary knowledge of the subject. A short reference to the literature is appended to each article—just sufficient to indicate where some of the chief original papers may be found. For teachers of physiology it will be found a most useful and compendious book of reference, while it fully meets the requirements of the advanced student of medicine. We can well understand that its production has been beset with many difficulties.

New Inventions.

LIGHT TOURNIQUET FOR USE DURING INTRAVENOUS MANIPULATIONS.

DURING the operations of intravenous injection of drugs and saline, transfusion of blood, and withdrawal of blood for Wassermann and Dreyer's test by venepuncture and the like, it not infrequently happens that efforts to release the tourniquet are accompanied by disturbance of adjustment of the needle in the vein, or even by its complete dislodgment. This is not only a source of annoyance to the operator, but may lead to serious and painful consequences to the patient, especially if certain of the antisyphilitic drugs are allowed free access to the cellular tissues. Accordingly, at the request of the late Dr. A. E. Stansfeld a tourniquet was designed which could be released with the greatest ease by pressure of the finger and thumb of one hand. It has the additional advantage of being simple, inexpensive,



and, if necessary, easily sterilised. The instrument (see figure) consists of a plain rubber strip, the free ends of which are held together by means of a small metal clip. The loop thus formed is placed round the arm, and by pulling on the rubber and at the same time sliding the clip towards the arm the tourniquet is tightened to the required degree. Immediately on leaving go of the clip the rubber band is firmly held, as the two lower lips at B are pulled outwards for a small fraction of an inch, thereby causing the upper lips at A to pinch the rubber, which is thus tightly gripped. There is no danger of slipping, as the greater the pull on the rubber the more firmly it is held. When it is required to release the tourniquet, gentle pressure by the finger and thumb on either side of the clip at B will cause the two lips at A to move apart. This will allow the rubber to slide freely through the clip and relieve the pressure to any required extent.

This instrument may be obtained from Messrs. Maw, Son and Sons, Aldersgate-street, London, E.C.

R. G. CANTI, M.D. Cantab.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 28, 1920.

The Use of Figures in Medicine.

THE Council of the Royal Statistical Society is about to present to the Government an influentially signed petition urging the need of an immediate inquiry by a Royal Commission or Parliamentary Committee into existing methods of collecting and presenting public statistics. The petition draws attention to the defects and omissions of current statistics. For instance, there is no general information as to wages since the incomplete Census of 1906, nor any but the most meagre information regarding the consumption of food, clothing, and other necessaries. In fact, it is almost universally the case that persons engaged in any serious investigation have to rely on roughly approximate estimates in relation to one or more essential factors. The matters referred to in the petition are not of immediate interest to medical men; but, soundly based as our medical statistics may be, they are capable of improvement. The coördination of official statistics will be of future advantage in many directions, but the advantage will only be proportionate to the increase among medical men of the ability to employ figures.

Most of the excellencies of the Registrar-General's publications can be traced back to the genius of a single man, WILLIAM FARR, and are due to the happy accident that one who combined medical and statistical knowledge in a just proportion was allowed a free hand in days when vital statistics were not of sufficient interest to the general public for it to be worth the while of the uninformed to meddle with them. This is no longer the case; all realise vaguely that vital and medical statistics are of great importance. But, unfortunately, medical knowledge of and interest in statistics have not increased pari passu. The handful of medical men in this country who have devoted themselves to statistical science are not in a position to exert any serious influence upon the official organisation of statistics, and any development in the near future would almost inevitably be motived by the lay civil servant. The blame for this rests not with the civil servant but with the medical profession, which has been content to praise FARR and marvel at GALTON, without seriously striving to profit by the lessons of these great men. It is to be hoped that any changes made now will not be of such a character that, when a properly instructed body of medico-statistical opinion comes into existence, the system will be unamenable to remedy. Statistics can be trusted if they have been collected with care, when the larger the number of cases the greater, of course, will be the probability of the elimination of disturbing factors. The hasty accumulation of a few results is not a contribution to statistical methods, though it may afford valuable suggestions.

The Selection and Care of Airmen.

THE time is critical for civil aviation. The teams of experts picked by the war are being disbanded just at a time when organisation and research in aeronautics are most needed. Lord WEIR'S Committee, which has just reported,[1] fortunately fully recognises these facts, and suggests a central institution at the Imperial College of Science and Technology, where the professorship lately founded by Sir BASIL ZAHAROFF is to be held. In the meantime well-considered research on the medical aspects of aeronautics is not altogether in abeyance, and we welcome the appearance of two cheaply priced little manuals[2] by French doctors of experience.

Drs. MAUBLANC and RATIÉ deal with the selection of candidates for aviation, based on experience at Chartres. In addition to the ordinary clinical methods they employ certain tests which give precise results. Both systolic and diastolic pressures are measured, and the value of a relatively high diastolic pressure is duly emphasised. Healthy condition of his upper respiratory passages is of great importance to the airman, owing to the drying effect of altitude, as well as the necessity of efficient air entry. Determination of the vital capacity is recognised as being of service in the selection of the airman, the average being given as 3000 to 3500 c.cm., a lower figure than is found in this country. In the abdominal system attention is drawn to the advantage of good muscular tone and the serious drawback of any digestive ailments such as chronic dyspepsia. In examining the central nervous system no special tests are employed. Normal acuity of vision and good ocular muscle balance is demanded, although it is admitted that some successful pilots do not reach this standard. Both auditory and vestibular mechanisms are thoroughly tested. In the ultimate selection of candidates, not otherwise eliminated, great attention is paid to the psychomotor responses, which are tested by a method modified from that of CAMUS and NEPPER, a chronograph by RICHARD being employed. The average times for these reflexes are: visual 0·19, auditory 0·145, tactile 0·14 sec. Importance is attached to the constancy of the readings—regularity indicating good condition, irregularity bad condition. These reflex times are somewhat slowed by age, and largely altered by illness and accident, the responses generally becoming slow and irregular. Reflex responses are also noted to alterations of equilibrium brought about by means of a special chair, and interesting results have been obtained. It has been shown that the mean reaction times of skilled pilots to such alterations of equilibrium are quickened by training, the reduction in the time-reaction of candidate and trained pilot in one series of experiments being: sagittal variation, 0·12 to 0·09 sec.; transversal, 0·12 to

[1] Report of the Committee on Education and Research in Aeronautics. H.M. Stationery Office, Cmd 554. Price 2*d*.

[2] Guide pratique pour l'examen médical des aviateurs, &c., by Drs. Maublanc and Ratié. Price 3 fr., pp. 109. Le Mal des aviateurs, by Professor R. Cruchet and Dr. R. Moulinier. Price 3 fr., pp. 96. Paris: Librairie J. B. Baillière et Fils (both volumes).

0·09 sec.; horizontal, 0·18 to 0·15 sec. Variation in these responses may serve to detect illness and fatigue, the psychomotor reactions under these conditions becoming slow and inconstant.

Another series of observations, emerging from the work of Drs. MAUBLANC and RATIÉ, concerns the effect of flying upon the blood pressure; these (for an unstated number of cases) are summarised as follows:—

	Systolic.	*Diastolic.*
Augmented in	20 per cent.	23 per cent.
Diminished in	30 ,,	7 ,,
No change in	46 ,,	70 ,,

Exact details as to the manner in which these experiments were carried out are not given, but the results are in marked contrast with those recorded by Professor CRUCHET and Dr. MOULINIER, the authors of the second manual under consideration, who have made extensive observations upon pilots, including many famous fliers, such as LEGAGNEUX and MORANE. Their conclusion is that the arterial pressures in normal subjects are constantly augmented on landing. The increase in pressure is less apparent when the subject is fatigued, and may in a state of exhaustion be replaced by a hypotension. Their results have been confirmed by FERRY, and support those previously obtained by PACHON on athletes, but differ somewhat from those recorded in experiments in rarefaction chambers; the authors incline to attribute this to the effect of speed in the aeroplane. In regard to the use of oxygen, reference is made to recent experiments by GARSAUX, which tend to support the view of AGAZOTTI that the addition of carbonic acid gas, 13 parts to 100 of oxygen, improves the efficacy of oxygen for high-altitude flying. It is doubtful if such be the case when oxygen is administered continuously, before any washing out of carbon dioxide has taken place by the deepening of the respiration.

Broadly speaking, it may be said that there is no special disease of airmen. It is the strain thrown upon the various bodily systems which eventually leads to a condition of fatigue and breakdown, such as might occur in any other arduous occupation. In this respect the two French monographs confirm the results obtained by British workers. All are agreed in regard to the necessity of a special medical examination for the selection of airmen and of periodic re-examination of pilots, such as is now required by the International Aeronautical Convention. The true medical treatment of the airman is a preventive treatment, and it is important that this should be recognised, and acted upon, at the outset of the development of civil aviation. It will be a feather in the cap of preventive medicine if no new occupation disease arises, but the responsibility thrown upon medicine is here a very real one. The examining officers, forming part of a highly equipped and properly trained service, working individually or in groups, will have to be on guard against many possible sources of error.

Safety and Comfort in Child-Bed.

THE normal healthy woman would, we believe, prefer to lie in at home if she could do so with safety and a reasonable amount of comfort of body and mind. But at present in too many instances she commands neither safety nor comfort. The maternal death-rate in child-bed remains what it was more than half a century ago; in 1917 for every 1000 births 48 mothers died, and it can hardly be doubted that two or three times as many were permanently invalided. When introducing an important debate[1] last September Dr. T. W. EDEN gave his opinion that the increased provision of maternity hospitals would have a beneficial effect upon this mortality, and the general consensus of the discussion confirmed this view. The Ministry of Health appears to be of the same mind in its most recent Memorandum[2] on maternity and child welfare, although observing caution in regard to the extent of the need. Two classes of patients, it is stated, clearly require provision for child-birth away from home: those who show some abnormality, and those whose domestic conditions are unfavourable. The first class is of known or ascertainable extent, and the provision should be in the nature of beds in maternity hospitals, of which several forms are described and illustrated in the Memorandum. The second class arises largely from an emergency which time and appropriate handling may relieve. Comfort in child-bed has been sadly diminished by the house famine and the disastrous lack of domestic service. A typical example drawn from the daily press of Tuesday is that of an ex-naval man living with his wife and two children in a single room and applying for accommodation in the workhouse after a year's fruitless search for other quarters. Under such conditions child-bearing at home is unthinkable, and in our own large towns, as in Paris,[3] some temporary provision is very urgent. The report of a conference convened in November by the Central Nursing Council,[4] and now issued, throws additional light on the difficulties of maternity nursing as they exist in London at the present time. It is there stated, without contradiction, that the bulk of confinements in London are now attended by midwives, who are often too overwhelmed with work to nurse their own cases, while trained nurses seem loath to work under them. Sir WILLIAM COLLINS, in summing up the lessons of this conference, dwells on the need for municipal maternity hospitals, but he puts, as the first and foremost want, a more ample supply of home helps. Home-helping may well provide an outlet for those who possess a talent for domestic service.

[1] Section of Obstetrics and Gynæcology, Royal Society of Medicine, THE LANCET, 1919, ii., 1081.
[2] Memorandum in regard to Maternity Hospitals and Homes. Memo. 15/M. & C. W. H.M. Stationery Office. Price 9*d*.
[3] See Paris correspondence, p. 513.
[4] Report of Informal Conference on Maternity Nursing between the Executive Committee of the Central Council for District Nursing and the Medical Officers of Health of the Metropolitan Boroughs, held at the Ministry of Health, Nov. 25th, 1919.

Rural Water-supplies.

AN instance of some of the difficulties besetting the provision of a rural water-supply is afforded by a recent number of the *Municipal Engineering and Sanitary Record*, in which is given an account of the present deadlock in the arrangements for providing a particular rural parish with a wholesome supply of water. It appears that the present supply, which is derived from a number of surface wells subject to pollution, has been condemned by the medical officer of health. The rural district council is prepared to take steps to provide a satisfactory public supply, but the project is opposed by the principal ratepayers of the parish, who carried the day at a parish meeting summoned to consider the question. It seems likely that the resolution there passed, however unanimous, may not adequately express the opinion of the poorer inhabitants largely concerned, who may be unwilling to take sides against their more important neighbours. The poorer inhabitants are, therefore, to be compelled to continue in the use of their polluted water-supplies owing to the lack of public spirit of the richer members of the community, who can probably manage either to safeguard their personal supplies of water or to replace them by some pleasant substitute. This is far from being an isolated example of the many problems which confront those responsible for the provision of water-supplies in rural districts; these problems are largely the product of inertia and of selfishness in combination. In such a case as the above, the rural district council ought to overrule the opinion of the parish, and should apply its powers under Section 51 of the Public Health Act, 1875, to provide a public water-supply. But the councils of rural districts are cautious and conservative to the last degree, and they know that the Act in question, while conferring the power, does not impose the duty of providing such a supply. There is more than one weak link in the legal machinery in this respect. For example, Section 3 of the Public Health (Water) Act, 1878, refers to the "*duty* imposed on them [rural authorities] by the Public Health Act, 1875, of providing their district or any contributory place ..... with a supply of water, where danger arises to the health of the inhabitants from the insufficiency or unwholesomeness of the existing supply," &c.; yet the most diligent search fails to trace in the 1875 Act the statement of any such obligation as distinct from the grant of such powers. To the non-legal mind, intent upon public good, it appears that the law on the subject needs overhauling, with special reference to the substitution of obligatory for permissive clauses.

The officers of rural authorities may find useful leverage to hand in the new housing schemes. Under Section 6 of the Public Health (Water) Act, 1878, every house erected after March 25th, 1879, must have a sufficient and wholesome supply of water for consumption and for domestic purposes, and the house cannot be occupied until a certificate to that effect is given by the sanitary authority on the report of its inspector of nuisances or medical officer of health. In the past houses have crept into existence where that certificate has been obtained, almost as by stealth, in cases where the water-supply was not really above suspicion, and where the only excuse was that the house, like the baby in the old story, was "only a little one." But a new attitude is needed with the more serious question of the erection of houses in number previously never dreamt of. The officers in question may now not feel justified in approving water-supplies in bulk where before they approved, with some qualms at times, supplies to individual houses erected at infrequent intervals. If their reports do in effect prove adverse, the district council will be faced with two alternatives—to drop the housing scheme, which will be likely to lead to trouble with the Ministry of Health, or to screw up its courage to the provision of a proper water-supply. It is to be hoped that the latter alternative will commend itself even before the pressure of public opinion and of the Ministry compels its adoption.

Annotations.

"Ne quid nimis."

IN MEMORY OF WILLIAM OSLER.

A PUBLIC meeting has been called in the lecture theatre of the Museum at Oxford on Saturday, March 6th, at 3.30 P.M., to consider what steps should be taken to perpetuate, in some appropriate manner, the memory of Sir William Osler. Invitations have been sent out in the names of Arthur Thomson (Dr. Lee's Professor of Anatomy), Georges Dreyer (Professor of Pathology), C. S. Sherrington (Waynflete Professor of Physiology), J. A. Gunn (Professor of Pharmacology), P. E. H. Adams (Reader in Ophthalmology), E. W. Ainley Walker (Lecturer in Pathology), A. P. Dodds-Parker (Lecturer in Applied Anatomy), A. G. Gibson (Lecturer in Morbid Anatomy), Wm. Collier (Litchfield Lecturer in Medicine), and H. C. Bazett (Welsh Lecturer in Clinical Physiology), all immediately concerned with the teaching of medicine in Oxford. Many University officials and heads of houses have intimated their intention of being present. Notifications of the intention to be present should be sent to the interim-secretary, Professor Gunn, at the Museum, Oxford.

THE WAR EMERGENCY FUND OF THE ROYAL MEDICAL BENEVOLENT FUND.

THE National Relief Fund has made a substantial grant of £10,000 to the War Emergency Fund to be used for general purposes. This enables the War Emergency Fund to enlarge the scope of its activities in a practical manner. The Committee of the Fund will now be able, for example, to make liberal grants for the education of children of medical men who held commissions in the medical services during the war, and we cannot conceive any better destination for the money at their disposal. Next, perhaps, to the education of his children the principal anxiety of the medical man is that death in harness should not imply

immediate poverty for his family, and this apprehension, also, takes its rise largely from the feeling that such poverty must lead to lack of education. But the medical men who have taken thought for the position by insuring their lives, have found in existing circumstances the payment of premiums a heavy burden, and the relief of this responsibility is one direction which grants from the War Emergency Fund may very usefully take. There is also the burden of the loan to purchase house or practice; interest charges are pressing heavily on many of the doctors who were away with the colours, while timely help will enable them to make good a position which has been jeopardised by world events, and not by personal rashness. We are able to say that any officers applying for assistance on such grounds as we have set out will be heard sympathetically. Communications should be made to the Honorary Secretary of the Fund at 11, Chandos-street, Cavendish-square, London, W.1.

THE BLOOD PRESSURE IN PULMONARY TUBERCULOSIS.

IT is a curious fact that in spite of numerous investigations into the blood pressure in pulmonary tuberculosis, and the unanimity of most observers, the diagnostic and prognostic significance of a low blood pressure in doubtful cases of tuberculosis is commonly overlooked. French and American writers attach great importance to this sign, and both Papillon and Regnault have found it a useful guide at a stage when the physical examination of the chest is negative. German writers are, on the whole, less impressed by the diagnostic value of this sign. In a recent publication,[1] Reinhold Nauclèr has combined a review of the literature of this subject with a long series of original investigations. These showed that though considerable individual variations of the blood pressure might be found in groups of cases classified according to Turban, yet the average pressure sank uniformly with the extent and severity of the disease. And even in the matter of individual cases the highest pressures were observed in Turban's stage I., the lowest in moribund cases. Both diastolic and systolic pressures were lowered by the disease, but the diastolic was less affected than the systolic pressure. It was also noted that the fall of the pressure depended rather on the malignity of the disease than on its anatomical distribution; in some cases characterised by considerable malaise, but by few and insignificant chest signs, the pressure was extraordinarily low. Measurements of the blood pressure in the same individual over a long period sometimes showed that a comparatively high pressure might come down with a run if the disease was rapidly progressive, whereas in other cases an originally low pressure might fall only a trifle during the further course of the disease. A comparison of the blood pressure with the weight curve showed that the average pressure was higher among those who gained weight than those whose weight was stationary; and in these again it was higher than in those who lost weight. There was also a definite parallelism with regard to the blood pressure and hæmoptysis. Not only was hæmoptysis comparatively frequent among the subjects of a high blood pressure, but the severity of the hæmoptysis also corresponded with the height of the blood pressure. Nauclèr contrasts these findings with those of Professor Bang and others, who have argued that the pressures in the systemic and the pulmonary circulations are independent of each other. It may be, as Nauclèr suggests, that the coincidence of a high systemic blood pressure and hæmoptysis is not direct, and that both may be due to a third common factor. As to the value of the blood pressure in the early diagnosis of tuberculosis, it is disappointing to find that though it was subnormal in 60 per cent. of Nauclèr's patients in the first stage, both in this and in the second stage perfectly normal pressures occurred frequently. It would therefore seem that a low pressure is very suggestive of tuberculosis in doubtful cases, but a normal pressure must not be interpreted as excluding tuberculosis.

[1] Acta Medica Scandinavica, vol. liii., Fasc. III., 1919.

THE CHADWICK PRIZEMEN.

THE Chadwick trustees have awarded a gold medal and a prize of £100 to each of the two medical officers in the British service deemed to have distinguished themselves most in promoting the health of the men under their care. The selection has been made by the director-generals of the medical services, and at 5 P.M. on Monday, March 8th, in the lecture-room of the Royal Society of Arts, Sir Robert Hill will present Surgeon-Commander Edward L. Atkinson, D.S.O., R.N., and Sir John Goodwin will present Brigadier-General W. W. O. Beveridge, D.S.O., A.M.S., to Sir William Collins, who will make the presentation. At the conclusion of the ceremony Sir John Goodwin will deliver the first of a series of three lectures on Military Hygiene in Peace and War.

PSYCHICAL SCIENCES.

IN two numbers of the *Anglo-French Review*—namely, those for December, 1919, and January, 1920—there appears an interesting article by M. Camille Flammarion entitled, Les Sciences Psychiques. The celebrated French astronomer expresses his belief that the answers to questions, manifestations of levitation, and other phenomena obtained by or through the agency of mediums are genuine manifestations of the existence of a force existing in the universe for which at present there is no name. He quotes what he wrote in 1906: "Psychical manifestations confirm that which we know from other sources—namely, that the purely mechanical explanation of Nature is insufficient and that there exists in the Universe something besides apprehended matter. It is not matter which rules the world; it is an element which is both dynamic and psychic." In another article written in 1888 he said, "The Universe is an intelligent, unknowable resultant of forces (dynamisme)." From observations which he has made at varying intervals from 1861 and onwards he concludes: (1) That gravitation can be counterbalanced by contrary forces; (2) that the human being is possessed of an invisible force which can move objects more or less heavy without being in contact with them; (3) that the levitation of heavy objects—for example, tables—can be brought about by the simple contact of the hands of experimenters whose wills are united in the desire to obtain such levitation; (4) still more, such movements can be obtained without any contact—for instance, a chair will move towards the experimenter at his wish; (5) answers may be obtained to questions, such answers being given by knocks corresponding to a conventional code of letters of

the alphabet. He does not pretend to explain this force, he merely affirms its existence whether it be in ourselves or outside. As regards communications by knocks, he gives an instance which happened when he was present at a seance, when a long message was received of which we have only space to quote one sentence, "Liesnoc nob nu zevius." If the order of the letters is reversed this reads "Suivez un bon conseil." Another began as follows without any stops:—

"Acmairsvnoouusseytoeussbaoinmsoentsfbiideenlteosuss."

Take every other letter and this reads, "Amis, nous vous aimons bien tous, car vous êtes bons et fidèles." M. Flammarion says that he can hardly suppose that this communication was given by trickery on the part of the medium, for how difficult it would be to do. It certainly would be, but after reading "The Road to En-dor"[1] we think that the ingenious Mr. Jones could have produced the same or a similar sentence. The communication which was delivered, beginning at the end, is especially interesting, as it may have been communications of this kind which gave rise to the indictment of the seventeenth-century witch-finders that witches said their prayers backwards. We can agree with M. Flammarion when he says that there is an unknown force in or at the back of the universe "with which our five senses only put us in very imperfect relation." If we read M. Flammarion rightly, it would seem to be the same as the stoic "anima mundi" or "mens divina," referred to by Virgil in the fourth Georgic and the sixth Aeneid. This force can communicate with us in divers fashions, amongst others by mediums, but in brain transmission this becomes difficult, as M. Flammarion allows, and is often completely altered (dénaturée). But as for the levitation of heavy bodies we think that the matter is still not proven.

RELAPSING PHLYCTENULAR KERATITIS IN CHILDREN.

RELAPSING phlyctenular keratitis in children is one of the most unsatisfactory conditions which the ophthalmic surgeon is called upon to treat, especially in hospital practice. That there is some connexion between these obstinate cases and tuberculous infection is highly probable, but exactly what this connexion is has never yet been clearly proved. The theory put forward by Mr. C. K. Wolff, of Amsterdam, in a paper on the Character and Treatment of Scrofulous Inflammations of the Eye in the February number of the *British Journal of Ophthalmology* is somewhat novel. He suggests that a patient subject to phlyctenular disease has formerly had in his eye a tuberculous process which, though cured by the natural power of resistance to the organism, has left the eye hypersensitive to the tuberculous poison. According to him the patients can almost always be shown to have tuberculous glands of the neck on the same side as the affected eye, and to complete his theory we only have to accept the hypothesis that tuberculous poisons are now and then mobilised out of the tuberculously inflamed lymph glands. Acting on this assumption, Wolff has attacked the infected cervical glands by extirpation with, on the whole, favourable results. However, since renewed inflammation of the glands occurred rather often he now prefers to treat them by X rays, and the effect of this treatment on the recurrences of phlyctenular disease has been decidedly favourable. The number of exposures employed in any particular case varied from two to ten. This method of treatment has only been tried by him since 1916, but it seems sufficiently promising to warrant the hope that we may hear more of it in the future.

[1] Reviewed in THE LANCET, Feb. 14th, 1920 (p. 389).

A WELFARE MEDICAL SOCIETY.

THE work of successfully conducting an infant welfare centre is one of genuine difficulty. It not only demands a close acquaintance with many types of mother and many types of child, but there is also need of detailed knowledge of subjects which find no place in the present curriculum of medical schools. The literature of these subjects is perplexing, inasmuch as there appears to be no agreement even on points of fundamental importance, and there is little authoritative teaching. In view of all this a Society of Medical Officers of Maternity and Child Welfare Centres has been formed and will hold its first meeting on Friday, March 26th, at 5 P.M., at Bedford College, Regent's Park. A large number of medical officers in charge of centres have already joined the society in response to an invitation which was issued by circular. At the first meeting a draft constitution will be presented and a tentative programme for meetings in London and in various centres in the country. It is hoped that any medical officers in charge of centres who have not received an invitation to join the society will communicate with the secretary, Miss J. Halford, National League for Health, Maternity, and Child Welfare, 4, Tavistock-square, London, W.C. 1. It is of great importance that the work now being inaugurated at scores of new centres should not become stereotyped and commonplace, and we believe that this can be most surely prevented by the interchange of thought for which this new society offers facilities.

PROBABILITY-DIAGNOSIS IN MALARIA.

THE first paragraph of Colonel M. D. O'Connell's letter on the Diagnosis of Malaria, which appears in this issue of THE LANCET, would, we think, carry conviction to most minds of the value of microscopical diagnosis in malaria in the case of armies in the field, although Colonel O'Connell himself seems to remain unconvinced. He states a case against this method, basing it on two grounds: (1) that parasites may be present in the blood of individuals who display none of the ordinary symptoms of acute malaria; (2) that active malaria may be present notwithstanding failure to find parasites in the blood. In illustration of his first point he quotes the well-known fact that in countries where malaria is endemic the blood of native children, apparently in good health, may swarm with parasites. But this occurs in the case of natives only, and has no bearing on the significance of a heavy blood infection in adults who are residing as foreigners in the district. In the latter case the blood infection always forms a part of the picture of an acute malarial attack. As regards Colonel O'Connell's second point, it is true that in certain forms of malaria there may be periods in which no parasites are demonstrable in the peripheral blood, but this is no argument against blood examination; on the contrary, it is an argument in favour of repeated blood examination. If this is done proof will be forthcoming sooner or later of the true nature of these elusive forms of malaria, a proof

which is often unattainable by any means other than microscopic examination of the blood. It is surely rather wilful to quote Sir Patrick Manson's experiment of 1900 as evidence against the routine use of the microscope in the diagnosis of malaria, whether under the conditions of active service or otherwise.

We print in this issue a case of toxic anæmia, recorded by Dr. J. G. Forbes and Dr. R. F. Lunn, and assumed by them to be post-malarial, although they failed to demonstrate the plasmodium in the patient's blood. The record of such a case might be held to bear out Colonel O'Connell's poor opinion of the value of blood examination. But in point of fact no one maintains that a positive blood film is invariable in all cases of acute malaria; if it were so, medicine would lose much of its interest for the inquiring mind. The film may be taken at the wrong time in relation to the pyrexia, or the patient may be under the influence of quinine; or (rarely) the activities of the parasite may so seldom extend to the peripheral blood that the chances of finding it there are very small. No single clinical or pathological test is infallible; but it would show a lack of perspective to focus the attention on a small group of exceptional cases, and on these to found an indictment against a test which was of proved value in the war areas where malaria was prevalent. In the case recorded there were only two negative blood examinations before quinine was given, the effect of which was promptly to reduce the temperature. Examination during the apyrexial period was likely to yield a negative result. The demonstration of parasites in the blood is, in fact, only one element in the diagnosis of malaria. Mathematicians would tell us that the result of examining the blood in malaria does no more than establish a probability-diagnosis. But in the ordinary affairs of life probabilities when they reach 90 per cent. are considered worth a wager, and the clinician is right in placing a high value on blood examination in malaria.

A CASE OF PLAGUE IN THE PORT OF LONDON.

THE Ministry of Health has been notified of the occurrence of a case of plague on the s.s. *Alps Maru*. The ship arrived in the Port of London from Japan and entered the Millwall Dock a fortnight ago. One of the crew fell sick the next day, and as he was suspected to be suffering from plague he was removed to the isolation hospital. The diagnosis of plague has now been confirmed by the bacteriologist of the Ministry from material obtained from the patient. The vessel has been removed to the Port mooring station for infected ships, and all necessary precautions have been taken by the Port Sanitary Authority to prevent the spread of infection.

THE BREAD POSITION IN FRANCE AND GERMANY.

THIS country may well be appreciative of the policy of the Food Controller and his scientific advisers, which resulted in the fact that during the war bread never once came under a definite rationing order. The nation was asked voluntarily to reduce its bread-eating, to supplement the diminished amount of carbohydrates thus entailed with other cereals or potato, and to give up highly milled flour. The nation replied right loyally to that paragraph of the King's proclamation issued on May 2nd, 1917, which ran: "And we do for this purpose more particularly exhort and charge all heads of households to reduce the consumption of bread in their respective families by at least one-fourth of the quantity consumed in ordinary times; to abstain from the use of flour in pastry; and, moreover, carefully to restrict, or, wherever possible, to abandon, the use thereof in all other articles than bread." Things happened differently in France and in Germany, and the bread position in these countries is still difficult, as is shown by the following excerpts taken from the *Economic Review* (Feb. 18th, 1920):—

FRANCE.

Bread and Grain Regulations.

France is to have no bread-cards, but bread is to be dearer. The following Order has been issued:—

Home-grown wheat will be bought from the growers at Fr. 73 per quint., but sold to the millers at Fr. 76, the price of imported wheat. The maximum price of flour will be Fr. 93 per 100 kg. The prefects will fix the price of bread in their Departments, having regard to the costs of flour, transport, and bread-making. A bread-ticket, giving the right to 400 grm. of bread a day at the present price, will be available for: (*a*) heads of families with at least 3 children, for each child under 16; (*b*) widows with at least 2 children, for each child under 16; (*c*) war pensioners with an invalidity of at least 50 per cent.; (*d*) the aged, infirm, and incurable drawing benefits under the law of 1905.

As from Feb. 20th wheat flour, pure or mixed, may not be used in the manufacture of fresh pastry. Millers may not sell wheat flour or flour made of the secondary bread cereals for other purposes than bread-making. People are reminded of the penalties for feeding animals on wheat, flour, or bread. (*Œuvre*, Feb. 4th.)

GERMANY.

Reduction of the Bread Ration.

A semi-official message to the *Berliner Lokal-Anzeiger* states that the delivery premiums have not improved the grain-supply as much as was hoped, and in consequence the flour ration must temporarily be reduced from 260 grm. to 200 grm. per day. (*Köln. Ztg.*, Feb. 3rd.m.)

This will entail a reduction in the bread ration from 2350 to 1900 grm. per week. (*Schles. Ztg.*, Feb. 3.m.)

Grave Situation in Munich.

According to a confidential statement, which has found its way into the Munich press, the supply of bread, corn, and flour in Munich will suffice only to Feb. 16th, and even before that date the bread-supply will give out. The town holds only 15,000 ctr. potatoes and 10,000 eggs. Butter and margarine are completely lacking. There is enough meat to supply 200 grm. weekly for four weeks. (*Köln. Ztg.*, Feb. 4.ii.)

The future of the general health of nations which had a markedly inferior supply of food during the war is still uncertain, but the effects of such restrictions, in which a limited allowance of good bread counts, will probably be active for many years.

THE VACCINE-ANTITOXIN TREATMENT OF DIPHTHERIA.

Dr. F. M. Wood has described[1] a vaccine-antitoxin treatment of diphtheria, which he has used with success, and which has been adopted by the Chicago Department of Health. In April, 1913, prior to the announcement of Behring's toxin-antitoxin method, this treatment was first used. A vaccine was made from a case of diphtheria, and a pure culture obtained. A vaccine of 300 to 500 million bacilli and 1000 units of antitoxin were simultaneously, but separately, injected into three children having diphtheritic membranes in their throats. By the third day the membranes had disappeared. Two more doses of vaccine of 500 million bacilli were administered at intervals of three days. On the

[1] New York Medical Journal, Jan. 10th.

tenth day cultures were taken and found negative. Dr. Wood has used the method repeatedly in the last six years with uniform success, but he advises caution. If the vaccine can be given before the disease has progressed more than four days, and an excessive amount of toxin has not formed, the initial dose may be 300 million bacilli. But if the disease has progressed more than four days, if membrane formation is excessive, and if tonsils, nares, and pharynx are involved, there is great toxæmia. It is then best to administer 100 million bacilli and 3000 to 5000 units of antitoxin, according to the severity of the toxæmia. Thus the dangers of pneumogastric paralysis may be avoided. The dose of vaccine may be increased to 300 million bacilli at the next dose and later to 500 million, as improvement suggests. The antitoxin may be repeated as required. Thus both the destruction of the bacilli and the neutralisation of the toxin are achieved. Dr. Wood claims the following advantages for this method: The production of toxin is stopped, the patient producing his own antitoxin from the time the vaccine is administered. The dose of antitoxin renders inert the toxins already formed and thus prevents paralyses and heart failure. By using the method in carriers the bacilli are destroyed and epidemics are stopped. It may also be used to immunise contacts. In cases of diphtheria the throat is freed from bacilli in 10 days, thus shortening the quarantine period and enabling children to return to school without danger to the others. Dr. Wood thinks that the ultimate result of this treatment would be the efficient control of diphtheria epidemics as small-pox epidemics are controlled by vaccination.

THE CEREBRO-SPINAL FLUID IN MULTIPLE SCLEROSIS.

Dr. J. E. Moore,[1] of Baltimore, describes the results of the examination of the cerebro-spinal fluid in 28 cases of multiple sclerosis under treatment at the Johns Hopkins Hospital. In 20 of the cases the clinical diagnosis was certain; in the remaining 8 it was doubtful. In the first group the Wassermann reaction was negative in all cases, both in the blood and cerebro-spinal fluid; in 8 cases there was a pleocytosis of more than 5 cells; and in 18 cases Lange's colloidal gold test was positive. In the second group the findings were the same, except for the gold test, which was positive in 3 cases and negative in 5. These figures show that the spinal fluid picture is fairly constant, and that, other things being equal, such findings are a strong argument in favour of a diagnosis of multiple sclerosis.

DEATH OF DR. JAMES EMERSON REYNOLDS.

CHEMISTS will remember Dr. J. Emerson Reynolds, who died suddenly at his residence in Kensington on Feb. 19th in his seventy-seventh year, most by his admirable series of researches on silicon compounds, his synthesis of thio-urea, and his conviction that the elements have come into existence one after the other in the order of the atomic weights, starting with the smallest. He regarded each atomic mass as representing a stable aggregation of the fundamental stuff, a primal "Urstoff"—the protyle of Crookes. Modern developments in scientific work are rapidly accumulating evidence in favour of Reynolds's views. Students of Dublin in the seventies, eighties, and nineties will learn with regret of the death of their old teacher, who taught chemistry in Dublin from 1873 to 1903. For the first two years of that time he was professor of chemistry in the school of the Royal College of Surgeons, and for the subsequent 28 in Dublin University. His image stands clear in many a medical man's memory as one of the most notable at the beginning of his student career. He was a clear and comprehensive lecturer, illustrating his words with well-chosen and perfectly arranged experiments which never failed to "come off." His researches gained for him the Fellowship of the Royal Society in 1880. In 1901 he was elected President of the Chemical Society. He qualified early in his career to practise medicine, but his bent was chemistry. He resigned the chair of chemistry at Dublin in 1903, and then left his native country for London.

[1] Archives of Internal Medicine, Jan. 15th, 1920.

THE RANGE OF GENERAL PRACTITIONER SERVICE.

AN important case has just been heard by the referees appointed by the Scottish Board of Health to adjudicate a dispute between the Glasgow Insurance Committee and the Local Medical Committee. The question for decision was—

> Whether the operation of suturing tendons of fingers is a service of a kind, which can, consistently with the best interests of the patient, be properly undertaken by a general practitioner of ordinary professional competence and skill.

The referees were Mr. John Wilson, K.C., Dr. A. J. Campbell, and Mr. Frederick K. Smith, surgeon to the Royal Infirmary, Aberdeen. The Insurance Committee contended that the operation of suturing tendons of fingers was not one requiring special skill, but the referees held that the evidence of the distinguished surgeons called by the Medical Committee established a distinction between operations affecting tendons on the back of the hand and tendons on the front. The special risks and difficulties of suturing tendons in the palm was pointed out, and amongst others that—

> The sheath which encloses the palmar tendons may be the means of carrying septic material proximally into the palm or into the forearm, and, moreover, the proximal end of the severed tendon being subject to retraction into the sheath may involve an operative enlargement of the original wound. Further, the conditions existing in the patient's dwelling or in another dwelling house under which the general practitioner would generally have to operate, would increase the risk of sepsis, especially when the fingers have been seriously crushed.

Witnesses for the Medical Committee were clear that in Glasgow it was the general rule to have operations such as that in question performed in one of the hospitals. On the evidence before them the referees, without pronouncing on the skill required in the particular case, decided that no general or absolute rule could be laid down to the effect that suturing of tendons of a finger was a service of a kind which could, consistently with the best interest of the patient, be properly undertaken by a general practitioner of ordinary professional competence and skill.

Professor F. de Lapersonne, assisted by Professor Terrien and Drs. Velter, Prelat and Mombrun, will conduct a revision course in the ophthalmological clinic at the Hôtel-Dieu, commencing on May 11th and continuing every day entil the end of June. The fee is Fr. 100 and the number of places limited to 40. Application should be made to the Secretariat of the Faculty of Medicine, Paris.

MEDICINE AT TRISTAN DA CUNHA.

BY H. ST. C. COLSON, M.B., B.S. LOND.,
SURGEON LIEUTENANT-COMMANDER, R.N.

I HAD the opportunity last autumn of landing at Tristan da Cunha, a small island in the South Atlantic, 1200 miles from the nearest land. There are no doctors, lawyers, clergymen, police, or money on this island, and I believe the last medical report was written in 1902. My stay on the island only lasted a few hours, but I am enclosing a short report, thinking it will be of interest to readers of THE LANCET.

General Features.

Tristan da Cunha, a British possession, is an island mountain of volcanic origin in the South Atlantic Ocean, latitude 37–5–50 S., longitude 12–16–40 W. It is circular in form, with a circumference of about 21 miles, diameter about 7 miles, height 7640 feet. Volcano extinct during historic times. The island was discovered by the Portuguese navigator Tristão da Cunha in 1506, and was occupied by the British in 1816. The nearest inhabited land is the island of St. Helena, 1200 miles to the north. The inhabitants of the island number 111, and consist of 22 families living in 18 houses. Although the majority of the people are quite white, some of them are slightly coloured. This colour is fast dying out and originated from five women who were imported into the island from St. Helena in 1826 and the wife of Corporal William Glass, who was a Cape coloured woman.

The people appear to be clean and healthy. The clothing of the women is simple, consisting of a blouse and skirt and a handkerchief tied over the head. That of the men is varied, probably due to the fact that most of their clothes are obtained from passing ships. Their shoes are made of bullock hide and are very primitive and only last a few weeks. The islanders are abstemious, no alcohol being consumed on the island, and some of the men do not smoke. This seems to be a case of necessity rather than choice, as men visiting the ship were willing to take refreshment in the form of spirits or wines. Their speech is slow and very broad, and they have only a limited vocabulary. Some of their words are abbreviated by a syllable being left out, but this is probably due to ignorance in pronunciation.

Their houses are scattered over the settlement, and are built of thick stone walls and roofed with tussock grass. They consist of one large room, divided by wooden partitions into a sitting-room, a bedroom, and a kitchen. In the majority of houses the sitting-room has a large open fireplace. Most of the houses are provided with glass windows which do not appear to open. The doors are divided into a lower and upper part, presumably for light and ventilation. Penguin oil is used for lighting the house after dark, giving a small, bad light. The sanitary arrangements are primitive, a bucket of sand being used and the contents are carried away and thrown into the sea. The water-supply is derived from a stream which has been diverted slightly from its natural course to run through the settlement. Water needed for drinking and washing purposes is taken from this stream as required.

The produce of the island consists of beef, mutton, pigs, fowls, geese, eggs (poultry and sea-birds'), butter, and potatoes. The potatoes are made into a coarse kind of flour, but this is only used when other flour is unobtainable. Fish are caught by the inhabitants to supplement and vary their food. Other necessaries, such as flour, sugar, and salt, are obtained from passing ships by barter.

There are meteorological instruments on the island, but no records have been kept since the visit of Rev. — Barrow, who kept them from Feb. 15th, 1905, to March 31st, 1909.

Extract from Mrs. Barrow's book—

Max. temp., Feb. 15th, 1905–August 16th, 1908, 77·8° F.
Min. „ „ „ „ „ 37·9° F.

The rainfall in 1908 was 64·84 inches.

General Health of the Inhabitants.

This seemed to be good. The oldest inhabitant was Betty Cotton, aged 89 years, and except for some slight failure of vision was perfectly well. There have been six deaths reported in the last eight years—

Andrew Repetto. 9.2.11. Aged 44. Disease of chest.
Lucy Green. 1.8.12. Aged 63. Insanity.
Albert (? Alfred) Green. 1.10.15. Aged 30. Insanity.
Eliza Hagan. 11.10.15. Aged 75. Old age.
Joseph Fuller Glass. 25.8.15. Aged 47. Fever.
Elizabeth Glass. 25.8.16. Aged 33. Disease of womb.

No further information respecting the cause of death could be obtained. Epidemics are practically unknown, but after the visit of a ship the islanders suffer from "colds." The recent influenza epidemic was not experienced in the island. There appears to be no venereal disease among the islanders. Three women were pregnant, and expected to be delivered shortly. They are usually assisted by one or more of the married women. Minor complaints were those of chronic rheumatism, of which two cases only were seen in old people, failure of eyesight, asthma, lumbago, and hernia.

Interesting Cases.

The following cases were of most interest:—

Benjamin Louis Swain, aged 50.—This man had both upper extremities deformed from birth. His mother, Mrs. Susan Swain, is 70 years of age, and active and well. His four brothers and four sisters are normal. Deformity: Right arm. There is a small humerus articulating normally at the shoulder-joint, and much enlarged at the lower end (? fused carpus). There are two metacarpals articulating with the lower end of the humerus with two fingers, each having two phalanges. The left arm consists of a humerus smaller than that of the right side, which does not appear to articulate at the shoulder-joint. The lower end of the humerus appears to be prolonged into an ulna, but no joint is present. There are three metacarpals attached to the lower end of this, with thumb and two fingers attached. Both his arms and fingers can be used to a limited extent for picking up objects, &c. He also suffers from attacks of syncope, which can be accounted for by a degree of aortic regurgitation which is present.

Christopher Green, aged 14. His mother stated that he had not been able to speak since he was born. The boy, described by the islanders as simple, seemed an idiot. He was very shy and laughed foolishly on being spoken to, and he was only able to articulate very rudimentary sounds. There was some fibrosis of the centre of his tongue, but this did not seem sufficient to account for his lack of speech. His mother, prior to his birth, had been lost on the mountain for 24 hours, and had subsequently suffered from pains in the head and attacks of syncope. Except for his mental condition the boy seemed well grown and physically fit.

William Rogers, aged 28. This man complained of being unable to see at twilight at all, although his sight was normal in the day and by artificial light. There was no time to examine his eyes.

Mary Glass, aged 81. This woman suffered from chronic rheumatism in her right foot. She also had congenital deformity of the thumb of her right hand, the terminal phalanx being replaced by two small thumbs of two phalanges each.

Florence Swain, age 16. This girl fell down the mountain nine years previously and fractured both legs, which were "set" by the late Andrea Repetto, one of the inhabitants. He also amputated two toes of her left foot which were badly crushed. She had scars of fractures in both legs and her left foot is much deformed and scarred, causing difficulty in walking.

It will be noticed that two cases of insanity are shown among the deaths for the past seven years, and also that one boy, Christopher Green, is an idiot. These might suggest that there is an in-breeding in the island, but there is nothing to show that this is the case. The colony started in 1816 when a garrison was sent by the Cape Government to occupy the island. In 1817, when the garrison was withdrawn, three men asked to remain, and the chief of these was Corporal William Glass, who had with him his Cape coloured wife. Later, three men were shipwrecked on the island and five men, being bachelors, asked the captain of a whaler to bring them wives from St. Helena. This was done and a widow (with four children) and four other women were imported. Twenty years later Peter Green, a Danish sailor, was shipwrecked on the island, and in

the next decade Rogers and Hagan came from America and, in the early "nineties," Repetto and Lavarello—two Italian sailors—were shipwrecked there. The second, third, and fourth generations are still living in the island and there is no evidence of intermarriage.

Mrs. Lucy Green, who was reported to have died at the age of 75 from insanity, was the daughter of Peter Green (the Danish sailor) and one of the four daughters of the coloured widow who came from St. Helena. The registered cause of death was probably inaccurate. There was no doctor present, and a delirious condition might easily be taken by the islanders for insanity. The case of Albert Green, also reported to have died from insanity, is probably similar to the above. Christopher Green was the grandson of Peter William Green, one of the original settlers, and no intermarriage could possibly have taken place in this family. The two cases of congenital deformity reported above showed no signs of intermarriage in their families.

Medicine was given to those islanders who were in need of it. No supplies of medicine were left on the island. A ship of the Houston Line left medicines for the use of the inhabitants in 1916, but they were thrown by the islanders into the sea, as they did not know how they should be used and feared to be poisoned.

I vaccinated 38 children at the request of their parents, of whom the eldest was 15 years of age.

H.M.S. *Yarmouth*.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Extinction of the Typhus Epidemic in Paris.

THIS little epidemic was confined to the seminary of Saint-Sulpice, which serves to lodge refugees, among whom there happened to be Polish workmen infected with the disease. They are now convalescent, but the incident has demonstrated a defect in the organisation of hygiene in Paris. Special personnel was insufficient for the disinfection of the rooms, and this could only be carried out with the help of soldiers. The civilian services possess no single transportable stove. Beside this, in consequence of the house shortage, no place could be found to isolate the other inhabitants of the seminary. Dr. Roux, director of the Pasteur Institute, has renewed a suggestion made by him long ago to create a kind of lazaret on an open space near Paris with cement floors, on which hutments could rapidly be erected in case of need from material stored in adjacent hangars. In this way an emergency might be tided over in case of epidemic or flood.

The Rising Birth-rate.

The campaign goes on for increasing the accommodation for lying-in women. The fifth commission of the municipal council has voted an immediate credit of 100,000 francs in order to subsidise the midwives of benevolent institutions at a figure of 50 to 70 francs for each case of labour conducted at home, and to allot to each parturient woman an assistance of 50 francs. It is further proposed to cover an average fee of 20 francs for each visit paid at the home by the doctor of the Assistance Publique. M. Mesurier, director of the Assistance, stated that he had been able to find 300 additional beds for parturient women: 90 at the Hôtel-Dieu, 40 at St. Antoine, 50 at the Lariboisière, 100 at St. Louis, and 20 at the Edith Cavell Hospital.

The Schick Reaction.

M. Jules Renault has communicated to the Academy the result of his observations on 381 cases in which he has used the Schick reaction with diphtheria toxin. The details of the method were given in your issue of Jan. 24th (p. 192). If the reaction is positive the subject is regarded as receptive for diphtheria, if negative he is refractory or immunised in advance. The reaction may therefore be of great importance, during the course of an epidemic of diphtheria, in determining the subjects likely to contract the disease, when preventive serum can be given. Of course the reaction does not do away with the necessity of searching out diphtheria carriers who may be found as much among refractory as receptive subjects.

Chemo-therapy of Morphinism.

MM. Brissemoret and Challamel suggest a new method of "demorphinisation" which should be of value if confirmed. In morphinomaniacs a daily dose of 10 to 20 cg. of berberine combined with helenin, a stearoptene extracted from elecampane, is given. The authors claim to create thus a euphoria equal to that of morphine itself, while the two substances named are regarded as completely inoffensive.

The School of Social Effort "pro Gallia."

A school for social effort has just been inaugurated at Paris in the Musée Social, 5 Rue las Cazes, under the presidency of M. Jules Siegfried, deputy for le Havre. This school is designed to play an important rôle in the new and more methodical organisation of society. It plans to give social education and instruction to those who, more familial than professional by training, have decided to adapt themselves to the needs of the moment. The special aim is to provide a qualified personnel for social services, of which the number increases every day, such as children's nursing, school nursing, district nursing, and health visiting. Those who propose to be secretaries of welfare centres, directors of physical education, heads of orphanages, holiday homes, child-gardens, and so forth, will also receive training.

The late Dr. Triboulet.

Dr. Triboulet, who has just died at the age of 56 years, was physician to the Hôpital Trousseau, and, like his father before him, had a great reputation in pediatrics. His death was hastened by the loss of his eldest son, killed as a flying pilot during the war. Along with Lucas-Championnière he was the promoter of the visits of French doctors to England, and had organised medical travel between the two countries. At the last reception to English doctors in France he made a genial president, and many were the friends whom he counted in London.

Feb. 24th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

A Strike of Clinical Assistants.

THE present conditions of life in this country have resulted in a strike of an unusual character. Hitherto only a small proportion of the hospital medical staffs were paid. The house physician and two or three clinical assistants received a salary on a moderate scale; all other posts were honorary. Their incumbents had a vast opportunity for learning, but were not directly remunerated for their hard work, which was nevertheless essential for the working of the institutions. With the change produced by the catastrophal devaluation of our money, these men could no longer subsist on their mostly very limited means. They demanded a salary as well as the right to obtain for a modest sum their meals at hospitals or clinics. This being refused by the Government, the medical faculty, to whom they applied for help, took the matter up, and after further futile endeavours to come to an understanding the medical strike was proclaimed on Feb. 1st in the clinics. The strike only lasted two hours. The demands were not granted in toto, but they agreed to await further arrangements, having the sympathy of the public, who were anxious to see this question settled in favour of the physicians. This strike is the first instance, in this country, of the adoption of such means to further the economic position of the medical profession.

Increase of Payment for University Appointments.

By an order of the Home Office the fees of the ordinary and extraordinary professors of the Austrian universities have been raised in such a degree as to approach the salaries of other persons in similar standing in civil service. The ordinary professor will now get from 14,000 to 26,000 kronen a year, according to the length

of service, besides the extra payment according to the "index" of prices, as published half-yearly by the Board of Commerce, calculated on the average prices of the chief articles of food. At present this extra payment amounts to 21,000 to 36,000 kronen a year in case of the ordinary professor. The extraordinary professor, who has no regular clinic, gets a salary of 10,000 to 18,000 kronen a year, with an additional 14,000 to 24,000 kronen, based upon the index. Part of the fees paid by the students will in future belong to the teacher. A minimum of 600 kronen is guaranteed to the latter, but if the fees exceed the sum of 5000 kronen the teacher gets only half of the surplus. Another feature of the new order is regular payment of the docents, or younger scientists, who render invaluable help by their lectures. They are now to receive 6000 to 12,000 kronen a year. The students now pay three times as much as before for their studies, 6 kronen per hour per week, and in the medical faculty 60 kronen per half year is charged for the use of apparatus. Remembering that the buying value of one English pound sterling is 900 kronen at present here, the proper value of these salaries will be clear.

Financial Difficulties to Scientific Research.

In the Austrian Parliament the Minister of Health, Professor Tandler, pointed out the menace to the existence of scientific institutes owing to the immense rise in the price of materials. Chemistry is worst off now. Reagents and even the simplest apparatus are 50 to 300 times dearer than in 1914, if they are obtainable at all. Students are asked to procure most chemicals at their own expense. Training under such circumstances becomes illusory. In the experimental and sero-pathologic institutes animals are hardly obtainable, for they are more urgently wanted as food. A rabbit costs now nearly as much as a horse did in 1914. The horses, indispensable for producing diphtheria antitoxin, now cost 16,000 to 24,000 kronen each. The food for the horses kept in the Vienna Sero-Therapeutic Institute went up 420 times. The drugs are similarly expensive. A kilo of cocain, costing 300 kronen five years ago, now commands 55,000 kronen; morphia is in much the same case. Ether pro narcosi costs 400 kronen, pure iodine 5,000 kronen. A microscope costs 20,000 kronen, simple scales cost 4000, scientific journals and books cost between 500 and 2000 kronen per year. As the earning capacity of the bulk of the population has not gone up in the same proportion, neither the Government nor the individual student or worker is able to keep abreast with the times.

Influenza and Lethargic Encephalitis.

A new wave of influenza has been noticed in Vienna, milder than the last one in 1918–19. It is characterised by muscular weakness and bronchial affections, with frequent involvement of the accessory cavities of the nose and the middle ear. As the majority of the population seem to be immunised from last year, the epidemic is not very widespread. A series of cases of encephalitis lethargica noticed in the Clinic of Nervous Diseases could not be brought into definite relation with the incidence of influenza. Measles, now very prevalent, shows features nearly related to encephalitis, for the constant desire to sleep is marked, and the children suffer much from after-effects.

Vienna, Feb. 15th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Farm School for Deficient Children.

AT a meeting of the Budapest Board of Education, called to arouse public sentiment in favour of establishing a farm-training school for mentally deficient children, it was shown that 3 per cent. of the children in the city are imbecile in some degree, up to complete idiocy, making a total of about 800 at present. Other points brought out were that nine-tenths of the mental defectives are uncared-for children who cannot keep up in regular schools, notwithstanding the employment of special rooms for backward children; that these children largely recruit the criminal and pauper classes; that it is cheaper for the State to care for these patients in an institution, which can be made largely self-supporting than to support them as criminals and paupers; and that heredity is the great cause of mental deficiency. It was urged that mentally deficient children be differentiated from simply dull children by modern psychological tests, and that these children be kept for life in a suitable public farm institution, where they would be happier and more useful than at home, and would be prevented from propagating their kind.

The Control of Mineral Waters.

To put an end to the numerous abuses in the sale of the so-called mineral waters the Superior Council of Hygiene has just decided that (1) "mineral water" is a water to which therapeutic properties are ascribed; it should be recognised as such by the Pharmacological Board of the University, authorised by the Government, and exploited under the conditions specified by the official organisation; (2) "natural mineral water" in bottles is labelled so that it may be distinguished from other bottled waters, especially table waters; the employment of descriptive terms implying therapeutic properties is to be forbidden.

Curability of Progressive Paralysis since the Salvarsan Era.

Dr. Kenéz, speaking at the recent conference of Budapest psychiatrists, said he did not think that the recent achievements in serology and the introduction of salvarsan had been of much service in the diagnosis and treatment of progressive paralysis. In fully 24 per cent. of the cases, he said, we may anticipate remissions in the course of the disease during the early stages. A patient entering on a phase of remission should not be reported as "recovered" under the drug that he happened to be taking at the time. If the weight begins to increase, a suspicion of a remittent phase is justified. He further emphasises the point that true syphilitic processes may co-exist with the changes responsible for the paralysis, and consequently benefit will follow as the former subside under specific anti-syphilitic measures.

Punctured Wounds of the Diaphragm.

Dr. Cornea, who had a huge surgical hospital in Innsbruck during 1917 and 1918, reports his experiences with stab wounds of the diaphragm. He attended only 45 similar cases out of 34,627 surgical patients. Only 17 of his cases were without concomitant injury of other internal organs. The wound in the diaphragm was not diagnosed in one-third of the cases; in 7 cases the stab had been received in the fourth and fifth interspace. The danger of diaphragmatic hernia is so great, as also the possibility of unsuspected injury of other organs, that expectant treatment is contra-indicated. In case it proves impossible to suture the wound in the diaphragm, the edges may be sutured to the costal pleura, as Dr. Frey in Vienna has suggested. This prevents hernia and also the danger of secondary infection of the pleural cavity.

Restoration of the Nose.

This same surgeon reports his experiences with rhinoplastic operations; in three of them he made the new nose out of the soldier's fourth finger, as Wolkowitsch advised in 1910. He performed rhinoplastic operations also with other methods, his cases numbering 37. His experiences with the Wolkowitsch method encouraged also other military surgeons to work on this line, as also with the Italian method of rhinoplasty which was applied largely before the war.

Admission of Patients to Public Hospitals in Hungary.

On account of the immense number of unemployed the hospitals are crowded with feigners, who seek food and shelter there. This fact has induced the Board of Public Hygiene, on the recommendation of the Medical Faculty, to limit admission to university hospitals and public hospitals to those whose admission is provided for by statute: students in actual attendance at the University, emergency cases, and patients sent to the hospital by a legally qualified physician. All other

persons seeking admission to the hospital must make affidavit that they are not able to pay the ordinary charge of a physician. The abuse of the facilities of the hospital has not been extreme, but has been sufficient to justify this action of the Board of Hygiene.

Jan. 20th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

New Health Bill and British Medical Association.

THE Health Bill introduced by the Victorian Government has been passed by both legislatures, and the new Commission will be appointed at a quite early date. The Premier has now introduced a clause which renders it possible for medical officers of health appointed under the Act to attend members of lodges and their families, either by agreement made by the Government or by a municipality. There was no discussion of the possible position if the British Medical Association disagreed. Yet the first difficulty in such a provision will be to fill the positions. If this is done in opposition to the Association there are obvious rocks ahead in the way of administration, for it is no easier for a medical man than anyone else to serve two masters, and the Association will not allow its members to accept positions unless at its own rates. The members of the Returned Medical Officers' Association have also signified their intention of not applying for these positions.

Mask Wearing in Sydney.

When the compulsory wearing of masks as a protection against influenza was first introduced in Sydney, Dr. Fox, a practitioner at Glebe, refused to comply and was arrested. He subsequently entered an action against the authorities, who had refused to proceed with their own action. He was awarded £250 damages.

Curious Double Fatality.

An unusual occurrence has occupied the public attention in Melbourne. A female patient went to a suburban dentist to have a decayed tooth extracted. An excited call was made by the operator on the telephone for medical assistance as the patient had collapsed. A medical man was at once in attendance, but found on arrival that the patient, a young widow, aged 32, was dead, and the dentist, who was lying in another room at the point of death, died in a few minutes. The autopsy showed that the patient had apparently died of heart failure following the injection of a local anæsthetic into the gum around a tooth, which was not extracted. The surroundings indicated that the dentist had made attempts to revive the woman and then in a sudden paroxysm of alarm had himself taken poison in the shape of a solution of cyanide of potassium. A doctor who was called stated that the dentist had been under treatment for some weeks suffering from nervous depression.

Radium Burn.

Dr. L. J. Clendinnen, a well-known specialist in Melbourne in radiology, was recently sued for damages as the result of the application of radium. The patient was a young women employed as a clerk who suffered from a corn on the sole of one foot. She consulted a surgeon, who advised radium should be tried. Radium was applied in a private hospital by Dr. Clendinnen. Thereafter the foot became painful and ulcerated, and it was alleged that the doctor did not see it again, and declined to visit her when requested. Several other practitioners were consulted, and the patient was laid up for some months. For the defence numerous medical men gave evidence that in their opinion the radium had been properly applied, and there was no permanent damage resulting to the foot. The jury gave a verdict for the plaintiff, and awarded £250 damages. Dr. Clendinnen was subsequently tendered an expression of sympathy by many of his colleagues.

Professorial Chairs.

Dr. A. E. Mills has been appointed to the professorship of medicine in the University of Sydney. The vacancy as professor of pathology in the University of Adelaide created by the retirement of Dr. A. Watson has been filled by the appointment of Dr. J. Burton Cleland, who resigns his post as chief micro-biologist to the New South Wales Government. Both the new professors are graduates of the University of Sydney.

Commonwealth Public Health Service.

It is announced that the Federal Government intends to proceed with the establishment of a Federal Health Department in addition to its quarantine activities. All the States have approved the proposal, but it is yet doubtful what legislative powers are required. At present it is not likely that more will be attempted than the encouragement of research and the perfecting of statistical and other information between the existing State Departments.

Melbourne, Jan. 13th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENT.)

India and Yellow Fever.

THE decision of the Government of India to appoint a committee to report on the measures which may be necessary to prevent the introduction of yellow fever into that country directs attention once more to the importance of creating a strong Department of Health. The problem would have been taken in hand long ago if a well-organised department of public health had existed. Seven years ago an official report was published which opened with the following statement: "Yellow fever has not appeared in India, but the abundant presence of the mosquito *Stegomyia fasciata*, which transmits it, the susceptibility of the population, and general conditions in the chief seaports are very favourable to its existence and spread, and it is believed that the introduction of the virus would be followed by devastating epidemics which would be exceedingly difficult to control." It requires no special knowledge to grasp the significance of this announcement, which came ten years after Sir Patrick Manson had directed attention to the possibility that the opening of the Panama Canal might eventually lead to the introduction of yellow fever into Asia.

General Health of the United Provinces.

The severe epidemic of influenza last year had an injurious influence on the general health of the population, and greatly interfered with the normal activities of the medical and sanitary authorities. In the United Provinces the latest provincial report on vaccination shows that influenza was mainly responsible for a decrease of 298,997 in the number of primary operations. In the districts wherever the disease broke out in an epidemic form vaccination had to be temporarily stopped, and vaccinators were supplied with medicines and employed in perambulating medical work. Also a considerable proportion of children were rendered unfit for vaccination by the disease. Plague, cholera, and relapsing fever must also be held partly responsible for the decrease in vaccination. Revaccination returns showed an increase of 34,176 over the previous year's figures, due to the large number of operations following various outbreaks.

War Gratuity of Civil Surgeons.

It is notified that, in the case of officers of the Indian Medical Service, service in civil employment will not count as service qualifying for the grant of war gratuity.

Red Cross Activities in Afghan Operations.

In a report to the Commander-in-Chief the chairman of the Indian Red Cross states that the Red Cross started operations as soon as the news of the outbreak of hostilities was received, and issued orders for supplies on a large scale to be sent up from the Bombay depôt. It also took steps to make available at once supplies in the depôts in Lahore, which were equipped on a 500-bed basis, and Rawalpindi, where the stores were on a 300-bed basis. Depôts were opened at Rawalpindi, Peshawar, Kohat, Bannu, and Quetta, and the Red Cross authorities were able at an early date to appoint

Assistant Commissioners to the charge of these depôts. In addition, subdepôts were opened at Tank and Dera Ismail Khan. For the Murree hospitals the Red Cross representative was Lady Kemball, who undertook all work in connexion with these hospitals, and established a separate depôt at Kuldana. The system pursued by the Red Cross was to instruct its Assistant Commissioners to make themselves acquainted with the needs of the hospitals, field ambulances, and transport stations in their areas, and to forward to Simla an indent of articles necessary to keep their depôts supplied with materials required. Headquarters provided them with cash for local purchases. Indents from hospitals were, as a rule, countersigned by the A.D.M.S., but this rule was never enforced with any rigidity, and very large supplies were made on the direct request of the officers commanding hospitals.

Mortality from Influenza.

There has been an increase in the mortality from influenza in Karachi, and also in Bihar and Orissa. In Bengal and Madras the mortality is diminishing. In other parts of India the disease shows signs of spreading, and the cases appear to be of a mild type.

URBAN VITAL STATISTICS.

(Week ended Feb. 21st, 1920.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at 16,500,000 persons, the annual rate of mortality, which had increased from 15·3 to 17·4 in the four preceding weeks, fell to 16·8 per 1000. In London, with a population slightly exceeding 4,000,000 persons, the annual rate was 17·9, or 0·5 per 1000 below that recorded in the previous week, while among the remaining towns the rates ranged from 6·9 in Darlington, 7·0 in Eastbourne, and 8·0 in Barrow-in-Furness, to 23·9 in Cambridge, 24·8 in Hastings, and 27·3 in Bootle. The principal epidemic diseases caused 408 deaths, which corresponded to an annual rate of 1·3 per 1000, and comprised 158 from measles, 109 from whooping-cough, 71 from diphtheria, 53 from infantile diarrhœa, 11 from scarlet fever, 4 from enteric fever, and 2 from small-pox. Measles caused a death-rate of 1·6 in Leeds, 1·8 in Lincoln, 2·3 in St. Helens, 2·8 in Hull, and 3·8 in Gloucester and in Wigan; and whooping-cough of 1·6 in Birkenhead and 1·7 in Edmonton. The fatal cases of small-pox belonged to Poplar and East Ham respectively. The deaths from influenza, which had been 66, 98, and 109 in the three preceding weeks, further rose to 161, and included 37 in London, 19 in Birmingham, 15 in Liverpool, and 7 each in Wallasey, Manchester, and Leeds. There were 2415 cases of scarlet fever, 2000 of diphtheria, and 2 of small-pox under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 2459, 2010, and 3 respectively at the end of the previous week. The causes of 47 deaths in the 96 towns were uncertified, of which 16 were registered in Birmingham, 6 in South Shields, 5 in Liverpool, and 4 in London.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at 2,400,000 persons, the annual rate of mortality, which had been 15·9, 14·7, and 14·7 in the three preceding weeks, further fell to 14·2 per 1000. The 290 deaths in Glasgow corresponded to an annual rate of 13·6 per 1000, and included 4 from measles, 3 from whooping-cough, and 2 each from diphtheria and infantile diarrhœa. The 84 deaths in Edinburgh were equal to a rate of 12·8 per 1000, and included 2 fatal cases of diphtheria.

Irish Towns.—The 131 deaths in Dublin corresponded to an annual rate of 16·5, or 1·0 per 1000 below that recorded in the previous week, and included 3 each from measles and infantile diarrhœa, 2 from whooping-cough, and 1 each from scarlet fever and diphtheria. The 144 deaths in Belfast were equal to a rate of 18·2 per 1000, and included 9 from measles, 6 from whooping-cough, 2 each from enteric fever and scarlet fever, and 1 from infantile diarrhœa.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The Honorary Fellowship of the Society of Medical Officers of Health has been conferred on Brigadier-General Sir William Heaton Horrocks "in recognition of his invaluable services as chief of the Army Sanitary Department throughout the Great War," and on Dr. Henry Edward Armstrong, formerly medical officer of health for Newcastle-upon-Tyne, "for his long and distinguished services in connexion with public health administration and the advancement of sanitary science."

Correspondence.

"Audi alteram partem."

MEMORIAL TO OFFICERS AND MEN OF THE R.A.M.C. WHO FELL IN THE WAR.

To the Editor of THE LANCET.

SIR,—May I venture to bring to the notice of any of your readers, who may be unaware of the active prosecution of the above project, the following particulars.

A Committee representing every branch of the R.A.M.C. has been formed under the presidency of the Director-General Medical Services. This Committee has decided to erect a memorial bearing the names of all officers and men who fell during the war, and place this upon a prominent site in London, and if funds permit to erect replicas in Edinburgh and Dublin. The monument will stand in honour of the entire profession, and the project should also appeal to the many who received help at its hands in the hour of strenuous need. A sum of some £10,000 has been already collected by army commands, but it is estimated that at least £30,000 will be required if the monument is to be made worthy of the men to whose honour it is to be dedicated.

Subscriptions may be sent to army commands, or direct to the treasurers of the fund, Messrs. Holt and Co., 3, Whitehall-place, S.W. 1, marked R.A.M.C. War Memorial Fund.—I am, Sir, yours faithfully,

Wilton-place, S.W., Feb. 20th, 1920. G. H. MAKINS.

IS THERE A PARA-SCARLET FEVER?

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 21st Dr. Charles Box gives reasons for his belief that a certain series of cases of scarlet fever were not cases of rubella, and he says I asked him for these reasons. If he will be so good as to look at my letter again he will see that I did not do so, but that I did ask him to indicate the points which made him certain that none of them was rubella. His letter in your issue of Jan. 31st not only stated his belief but asserted his certainty. Dr. Box admits he would be the last to assert that the differentiation of mild scarlet fever from rubella is always possible, and I do not suppose he intends to maintain that it was possible in each one of the series referred to. Yet in referring to rubella he goes so far as to say that not a single case of this disease occurred in his wards. Now is it possible to say this and yet admit inability (as we all do) to differentiate in some instances?

Dr. Goodall's statement that rubella has not been prevalent in London lately is in no part answer to my query, as Dr. Box seems to consider; and it by no means follows that a case of rubella admitted into a scarlet fever ward results in an outbreak of that disease, though it often does. It is true rubella has not been epidemic of late in London, but I take it Dr. Goodall is only speaking of his own hospital when, in referring to outbreaks of rubella in wards, he says: "Such untoward results are not happening." As a matter of fact, I have had several wards in quarantine for rubella this winter, and have one now. Dr. Box's additional arguments in no way show that not one of his cases was rubella. I am, Sir, yours faithfully,

FREDERIC THOMSON.

North-Eastern Hospital, Tottenham, N., Feb. 21st, 1920.

To the Editor of THE LANCET.

SIR,—In connexion with this question raised by Dr. C. R. Box in THE LANCET of Jan. 31st the following facts may be of interest. Amongst 148 cases admitted as scarlet fever to the Borough Isolation Hospital, Ealing, from June, 1919, to January, 1920, inclusive, there have been eight cases which relapsed. The relapses all occurred amongst the 32 cases admitted during November. The particulars of these cases are set out in the following table.

No. of case.	Age.	Sex.	Admitted.	Relapsed.	Interval.
1	7	M.	Nov. 2nd.	Dec. 3rd.	31 days.
2	32	F.	,, 4th.	Nov. 24th.	20 ,,
3	3	M.	,, 10th.	,, 28th.	18 ,,
4	6	M.	,, 11th.	Dec. 18th.	37 ,,
5	6	M.	,, 11th.	Nov. 18th.	7 ,,
6	7	M.	,, 13th.	Dec. 29th.	46 ,,
7	5	M.	,, 17th.	,, 21st.	34 ,,
8	6	F.	,, 28th.	,, 23rd.	25 ,,

The average daily number of cases of scarlet fever in hospital during November was 43, and during December 32, nursed by the same staff in two wards served by a common kitchen.—I am, Sir, yours faithfully,

Ealing, W., Feb. 23rd, 1920. R. P. GARROW.

THE INFECTIVITY OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I think I should answer the letters written to THE LANCET since the publication of my lecture on Pulmonary and other Forms of Tuberculosis in your issue of Jan. 24th. These letters were written by Dr. E. Ward, Dr. Oscar M. Holden, and Dr. J. Fairley, who are, or have been, tuberculosis officers. I will not endeavour to answer all their criticisms.

With regard to Dr. Ward's letter, I am glad to find that both he, as well as the other two medical men, agree that we have failed in our treatment of tuberculosis. The sanatoriums and sanatorium methods are not doing what they were said to do. Dr. Ward complains, as each of the other two writers has complained, that not enough is done to separate infective people from others who appear to be healthy. I agree most thoroughly that, if it was proved up to the hilt that the infection by the tubercle bacillus in all cases, or in the majority of cases, or in a goodly number of cases, could be originated at any stage in life after childhood by infection from a tuberculous subject—such as is the case in measles, whooping-cough, and diphtheria—then segregation should be carried out, always remembering that the consideration shown for the infected subject, as sketched out by Dr. Fairley, is duly attended to. But, feeling as I do that there are so many good arguments for the theory that the only infection with tubercle bacillus which really matters is the one contracted in childhood, I hesitate to be as optimistic, as these gentlemen are, that segregation will stamp out tuberculosis; and, for this reason, that I think there are are so many symptomless, and even signless, tuberculous "carriers" who could be potential, and actual, infective agents that our children would still be infected. I will not cross lances with Dr. Ward as to which is the more serious infection, tuberculosis of the respiratory tract or catarrh of the respiratory tract. I have expressed my belief in the theory that the accessory catarrhal infections are the main causes of the signs and symptoms I meet with in the consumptive. I am glad Dr. Ward agrees that there are cases which appear clinically to be tuberculosis of the lungs, or consumption, in which the tubercle bacilli are repeatedly absent from the sputum; but, until Dr. Ward, or some other worker, establishes as a fact his hypothesis of the existence of an unrecognised form of the tubercle bacillus, I think such cases should not be treated as if they were due to tuberculous infection.

Dr. Holden will forgive me for tilting at the cocksure way in which he prophesies that segregation would render tuberculosis in a generation as uncommon as leprosy. I would ask him to use his efforts to substantiate that theory by direct experiment before he uses the weight of his opinion in holding out before the public still another cure for tuberculosis.

Dr. Fairley asked me if it is my considered opinion that the adoption of prophylactic vaccination against tuberculosis and catarrhal infections would lower the tuberculosis death-rate, and my answer is that, arguing on the analogy of what had been done to prevent typhoid fever in the army, I say that I consider inquiry by experiment should be made in this direction. I do not advocate it for application in practice until favourable experiments are carried out. I must counter one remark of Dr. Fairley's. He says that tuberculin tests enable us to find out infected cows. Surely in these days it is not necessary to remind Dr. Fairley that cattle may be tuberculous and yet give no tuberculin reaction, so that when we "cleaned up our herds" we should still be left with cattle which were capable of infecting our children. Such an example of the difficulties met with in preventing the spread of tuberculosis is only one of the many which I fear beset us in this difficult subject.

I am, Sir, yours faithfully,

Harley-street, W., Feb. 23rd, 1920. H. BATTY SHAW.

THE INTERNATIONAL CONGRESS OF MONACO.

To the Editor of THE LANCET.

SIR,—Allow me to draw the attention of your readers to the special interest of the forthcoming International Congress of Monaco. The Congress will open on April 15th, under the presidency of H.S.H. Prince Albert I. of Monaco. It amalgamates the following scientific congresses: (1) Medical Hydrology and Geology; (2) Hygiene and Climatology; (3) Spas and Thalassotherapy. It is expected to last ten days.

It seems futile to insist on the scientific interest of these various congresses, but I should like to point out the national interest of this occasion for the health resorts of Great Britain. The Congress is exclusively open to the Allies. So far as the benefit of a cure in health resorts is derived from the complete change in the patient's habits and surroundings, is it not time for Great Britain to cater for those who, previous to the war, used to flock to Central Europe?

The organising committee has been working, as might be expected, under difficult circumstances; nevertheless, special facilities as regards travelling and hotel accommodation will, it is hoped, help to make this gathering a success.

For information apply to Dr. C. F. Sonntag, secretary of the Balneological Section of the Royal Society of Medicine, Zoological Society, Regent's Park, N.W.

I am, Sir, yours faithfully,

GUSTAVE MONOD, M.D., M.R.C.P.,

Vichy, Feb. 18th, 1920. Secretary of the Organising Committee.

ANÆSTHESIA IN THROAT AND NOSE OPERATIONS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 21st you publish Dr. Felix Rood's admirable paper on Anæsthesia in Throat and Nose Operations. In spite of the fact that there are still a few advocates of chloroform, the case against this anæsthetic was well established, and the only conclusion possible is that there is a very general agreement that ether is preferable. It is evident that the whole difficulty originates from the fact that there is blood in the neighbourhood of the glottis, and yet neither in the opening paper nor in the subsequent discussion was there any mention made of any attempt to solve the problem by an efficient device for removal of the blood.

During a recent visit to the throat clinics in the United States I was much struck by the usefulness of an apparatus for aspiration of blood which is in general use there. This blood evacuator is made in a compact and portable form, and consists of a motor-driven combination pressure and suction apparatus, by means of which it is possible completely to evacuate the blood from the throat, while at the same time delivering a regulated stream of ether vapour. I have now used it in a large number of cases to the entire satisfaction of the anæsthetist and myself, and am convinced that no method which does not embody this principle of removal of blood by suction can secure such a quiet field of operation and opportunity for leisurely performance of pharyngeal operations. It obviates the repeated sponging which is one of the chief difficulties of the anæsthetist,

the sole sponging necessary being the use of one sterile swab for each tonsil fossa. There is no sickness, and the careful examination of the fossa, which is so essential, is made quite easy. The total absence of congestion makes this method ideal for such cases as pericarditis and exophthalmic goitre, and any of those chronic infective conditions which so frequently need tonsillectomy. Many such cases are included in my list, and the contrast has been very striking when compared to other methods.

The apparatus was designed by Dr. Yankauer, of New York.

I am, Sir, yours faithfully,

A. M. ZAMORA, M.C.Camb., F.R.C.S.Eng.

Welbeck-street, W., Feb. 23rd, 1920.

THE LESSONS OF STATISTICAL METHODS.

To the Editor of THE LANCET.

SIR,—Dr. H. Batty Shaw's lecture in THE LANCET of Jan. 24th on Pulmonary and Other Forms of Tuberculosis has brought to my mind a subject which I have thought a good deal about and which I may call the statistical evaluation of different lines of treatment in disease. I am not acquainted with any work, either of a private or official nature, which effects this—a most important subject for all who have to advise patients on the probable best line of treatment to adopt.

I can make clear what I mean, I think, by a hypothetical case of any common disease. A patient consults me with, say, cancer of the breast involving the axillary glands, and I, as a general practitioner, get a surgeon's advice and he advises an operation. I recommend my patient to follow the surgeon's advice, but at the same time am not quite sure in my mind that the result will be a satisfactory one. But what am I to do? All the surgeons say that the evidence is overwhelming for operative measures; but where can I get evidence of, say, 5000 operations for breast cancer and the duration of life, freedom from pain, absence of recurrence and for how long, and so forth? Can I get evidence of 5000 breast cancers treated by any one other method and their results?

The essence of this idea lies in the following up of all cases of illness, however trivial, and the treatment adopted over a considerable number of years; in fact, it means a medical history-sheet for every member of the community, which would ultimately have to be classified, and a group formed for a period of five years or more or less, from which one would get some idea as to some outstanding therapeutic measure of any real value.

What are therapeutics at the present day? Frequently individual fancies of the practitioner based on his own, necessarily very small, experience, and the statements, also usually the experiences of an individual, that he reads in books on therapeutics. We should all like to be able to get statistical evidence of, say 100,000 cases of tuberculosis, which would go far to convince us that the tuberculosis of the adult was an "inside" infection from an old arrested infection of childhood, or that it was an "outside," say inhalation, infection, from an infected dwelling, as it would make an enormous difference to our methods of combating the disease.

I once was discussing some operative procedure with a friend who had been a house surgeon in a large clinical hospital and left this appointment with all the enthusiasm of youth for this operative procedure, but his enthusiasm was sadly damped by a period of residence in a workhouse infirmary in the neighbourhood shortly after when he saw several of these surgical triumphs coming in to die. Here we have individual experience of the smallest degree, but it is going to influence that practitioner in his future practice. Would it not be an enormous advantage if a thousand or ten thousand cases of that disease, their duration, and general course under the operation in question and alternative methods were available at a central clearing-house where the practitioner could get information from.

It will naturally be asked how is this colossal amount of information to be obtained. The present National Insurance system is a ready-made channel for working through, and with regard to that system I am of opinion that a large amount of the trivial work performed by the general practitioner could be performed by nurses, and a reduced quantity of a better-class and better-paid-for work could then be performed by the practitioner.

It is, perhaps, pointing to all medical service being a question of State service, but whether that be so or not I am quite convinced that it is only by the comparative valuation of therapeutic measures taken in as large a number of cases as possible and their results watched and estimated over as long a period as possible, that we shall emerge from, shall I say, the empiricism of the physician and the individualism of the surgeon.

I am, Sir, yours faithfully,

Charing, Kent, Feb. 14th, 1920. H. E. LITTLEDALE, M.D.

THE DIAGNOSIS OF MALARIA.

To the Editor of THE LANCET.

SIR,—In the Experiences of Malaria in the Egyptian Expeditionary Force published in THE LANCET of Jan. 10th Mr. Philip Manson-Bahr rightly insists on the necessity of early microscopic diagnosis in malaria. The reason given is that in its absence clinicians are liable to make mistakes. Three cases diagnosed clinically as sunstroke were subsequently found, by microscopic examination, to have been malignant malaria; five cases of dysentery were subsequently diagnosed malarial enteritis; cases diagnosed clinically as relapsing and enteric fevers were subsequently, by microscopic diagnosis, found to have been malarial relapses; and cases diagnosed clinically as epidemic influenza, which was prevalent, were subsequently diagnosed by microscopic examination as malignant malaria. The small number of clinical mistakes discovered in the sick of such a large force reflects, I think, great credit on the medical officers of the force. Such mistakes are not always avoidable under the circumstances attending a rapid advance of a large force in the field.

In Palestine malarial fever is very prevalent. Masterman, who investigated malaria there before the war, remarked that the verdict of the microscope upsets all ideas of clinical experience. Parasites are found swarming in the blood of some, especially children, who exhibit no rise of body temperature, and who are to all appearance in good health, whilst in others suffering from what is clinically a typical malarial fever not even one parasite can be found in the blood. Hence it is possible that the subsequent discovery of parasites in a patient's blood does not mean that the original clinical diagnosis of another disease must necessarily have been an error. Also the failure to find parasites in the blood during the first few days of a primary attack of malaria does not exclude the possibility of the disease being malaria. The absence of parasites from the blood during the first three days of the fever is well illustrated in the original report of Manson's famous experiment in London, as published in THE LANCET of Sept. 29th, 1900, p. 923. Mosquitoes fed on malarial subjects in Rome had been brought to London and there allowed to bite two healthy young men. Of the two bitten men, the history of only one is related in the report. He had been bitten by about 55 mosquitoes on the hands and arms. This produced considerable irritation of the skin, persisting for two days, and subsequently malarial fever developed. During the first three days of the fever the body temperature varied between 100·4° and 103·6° F., but not even one parasite could be found in the blood, although repeatedly searched for. On the morning of the fourth day of the fever body temperature had fallen to 98·4°, and rose again to 102·8°. Repeated microscopic examination of the blood revealed only one doubtful half-grown tertian parasite. On the fifth day of the fever the morning body temperature was 99°. Several half-grown parasites, one gamete, and two pigmented leucocytes were found in the blood in the first film examined. During the day many tertian parasites were found, and the body temperature rose to 103°. On the sixth day of the experiment

the body temperature in the morning had fallen to 97°, and did not again rise. A few three-quarter grown tertian parasites were found in the blood.

It is seen, then, that although it has been computed that one-quarter of a billion parasites must be present to produce fever, not even one parasite could be found in the blood during the first three days of the fever, whilst during the last three days, as the fever subsided, parasites were found. This absence of parasites from the blood during the first few days of a primary attack of malaria, such as in the experiment, and their appearance in the blood later was doubtless the reason why some who, when Laveran announced he had discovered parasites in malarial blood which were the cause of the fever, asserted that the bodies he discovered were not parasites, but what are now called pseudo-parasites—i.e., blood corpuscles changed in appearance, so that they resemble Laveran's bodies. Their late appearance in the blood was given as reason for regarding them as an effect, and not the cause of the fever.

When, as we have seen, the best expert microscopists failed to discover parasites in the blood during the first three days of the experiment in a quiet home in London, it is too much to expect that microscopic diagnosis would be more successful under the unfavourable circumstances attending the rapid advance of a large force in the field as in Palestine.

I am, Sir, yours faithfully,

Leeds, Feb. 24th, 1920. MATHEW D. O'CONNELL, M.D.

PREVENTION OF VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—I have followed with interest the discussion on the prevention and treatment of venereal disease, and the attitude with regard to the subject taken by the National Council for Combating Venereal Diseases, the Society for the Prevention of Venereal Diseases, and the proposals for dealing with these diseases that have been brought before the public, notably by the *Times*. The "Memorandum of the Policy of the Medical Women's Federation," as reported in THE LANCET of Feb. 14th, adds another expression of opinion with which I do not think all medical women will agree, in so far that it does not appear to grapple sufficiently with the preventive side of the question from the medical point of view. It seems most regrettable that a controversy should be carried on when a combined and concentrated effort is so urgently needed to meet and to deal with what is acknowledged to be a scourge and a source of national weakness, and I feel inclined to ask, Have we not a dual responsibility with regard to this matter—namely, that of citizens, and that of medical practitioners responsible for the health of the nation? As citizens we must further by every means in our power all endeavours made to combat the evil by legislation, by social effort, by education, and by religious instruction, and the last by no means the least, for it requires a greater incentive than the fear of results to deter most men or women from sin—and fornication is sin.

Having, I hope, guarded myself from misunderstanding and made my position clear, it appears to me that as doctors we must face the fact that a certain proportion of individuals, either from force of temptation, heedlessness, or of deliberate choice do, and will, run the risk of infection, and for those provision must be made as far as possible to prevent the development of disease in them, and the carrying of disease by them, not so much perhaps for their own sakes, as in defence of and for the sake of the innocent women and children who may immediately or later become infected by them. The far-reaching effects of congenital syphilis have not even yet been fully realised.

The controversy seems to centre round a most unfortunate phrase, "Prophylactic Packets." No one in these days can object to personal hygiene, and it would seem only reasonable to teach the need for immediate disinfection after illicit intercourse, where unquestionably a possible risk of infection is always incurred, and to ask this is no more than to ask—what is acknowledged to be a duty as a citizen—that after contact with any other infectious and possibly much less dangerous disease precautions against infection should be taken. In view of the evidence given by witnesses before the Interdepartmental Committee, and statements made by those in a position to know, it appears to be established that early disinfection does minimise the development of these diseases. This being so, if the practice of disinfection were adopted by men, even though it were not efficiently carried out in every case, it would surely go a long way to prevent the spread of disease, to save misery in families, and the ill-health of which we see so much in young married women.

Early preventive treatment for women cannot, for obvious reasons, be advocated in the same way. It is now comparatively easy to recommend treatment to married women and to unmarried mothers who have been infected. But the class of women and young girls who, for the sake of argument, may be regarded as the primary source of infection, present a much more difficult problem. Fortunately, the greater number of them do not become mothers. When we consider the social conditions of the majority of the young girls who lead more or less irregular lives, one realises how impossible it is for them, even when the disease has been diagnosed, to carry out directions such as those given in Forms V. 6 and V. 7, published by the Local Government Board, regarding precautions to be taken by those suffering from syphilis and gonorrhœa as regards the "risk of infecting others." As well might we expect a patient suffering from scarlet fever to be satisfactorily treated in a house of one or two rooms inhabited by a large family. Most of those girls who are spreading disease, and who may be a greater source of danger than the older women, are living at home or in lodgings, and are in daily employment; they may be working in dairies, or employed as waitresses, or otherwise handling food, or even be in situations and have charge of young children. To deal satisfactorily with this class, much greater provision for indoor treatment must be provided than is at present available, and a much more elastic provision for admission must be made, even if it entail something of the nature of reception wards, so that any woman who applies for treatment or shelter at any hour of the day or night can be admitted. If efficient help were available when sought for, it would induce many, when they fear they have become infected, or that they have contracted disease, to seek advice, and would be taken advantage of according as to how the benefit was administered. If efficient help is not given when sought for, the probability is that the women may not return.

Another difficulty which presents itself is that a number of those who seek advice discontinue treatment before the acutely infectious stage is past. The consensus of opinion is against notification, but I am inclined to the belief that if some form of confidential notification could be introduced, applicable equally to men as to women, and only to be applied to those cases that are in an acutely infectious stage, it would be of service in ensuring continuity of treatment. Ophthalmia neonatorum is now a notifiable disease, and there is no outcry as to its injustice, although it indicates, to those who know what it means, the nature of the disease and the probable source of infection. Before, however, this measure can be whole-heartedly advocated, time must be given to allow of evidence being collected as to the efficient working of venereal disease clinics and the results attained in the reduction of venereal disease.

I am, Sir, yours faithfully,

LAURA STEWART SANDEMAN, M.D.

Aberdeen, Feb. 19th, 1920.

GREAT NORTHERN CENTRAL HOSPITAL.—**In order to meet the growing demands of North London the Committee of Management of the Great Northern Central Hospital, Holloway-road, N., are providing, from March 1st, a special department for diseases of children and child-welfare consultative centre. There will be two sections—medical and surgical—and the session will be held on Monday afternoons at 2.30. This department is intended for children under 12 years of age.**

Medical News.

SMOKE ABATEMENT.—The Minister of Health has appointed a Committee to consider the present state of the law as regards the pollution of the air by smoke and other noxious vapours and to advise what steps are desirable and practicable to diminish the evils still arising from such pollution. A Departmental Committee was appointed by Mr. Herbert Samuel in 1914 to inquire into this subject and it had made some progress in taking evidence when the war broke out and its proceedings were discontinued. Lord Newton will be chairman of the new Committee and the other members are Captain Hamilton Benn, M.P.; Professor J. B. Cohen, Leeds University; Mr. W. S. Curphey, Chief Alkali Inspector, Ministry of Health; Sir John Lithiby, late legal adviser to the Local Government Board; Mr. J. F. MacCabe, Local Government Board, Ireland; Mrs. Gilbert Samuel; Mr. E. D. Simon, Manchester City Council; Bailie W. B. Smith, Glasgow City Council; and Mr. F. J. Willis; Chief Assistant Secretary, Ministry of Health. Mr. E. C. H. Salmon, of the Ministry of Health, will act as secretary to the Committee, and any communication should be addressed to him at the Ministry of Health, Whitehall, S.W.1.

CONJOINT EXAMINING BOARD: DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—New regulations for this diploma were adopted by the Royal College of Surgeons on Feb. 12th. They require only a three months' course of instruction in tropical medicine at a recognised school instead of the longer course formerly prescribed. The synopsis of the examination has been modified and now runs as follows:—

1. The methods of examination of tissues, blood, secretions, excretions, parasites, and others organisms in relation to tropical medicine. The characters and life-history of protozoa, helminths, arthropoda, fungi, bacteria, and other organisms in relation to tropical diseases.
2. Medicine in relation to tropical diseases.
3. Hygiene of the tropics in relation to climate, race, food, water, soil, and waste matter.
4. Hygiene of the tropics in relation to towns, buildings, plantations, irrigation, and shipping.
5. Reclaiming of swamps and low-lying lands.
6. Sanitary measures dealing with communicable tropical diseases.

The next examination will be held on April 26th, and candidates who have complied with the conditions of the new regulations will then be admitted.

ROYAL INSTITUTION.—On Tuesday next (March 2nd), at 3 o'clock, Professor Arthur Keith begins a course of four lectures at the Royal Institution on British Ethnology: the Invaders of England; and on Thursday (March 4th) Lieutenant-Colonel Gold delivers the first of two lectures on the Upper Air. Sir John Cadman's postponed lectures on (1) Modern Development of the Miner's Safety Lamp, and (2) Petroleum and the War, will be delivered on Monday and Wednesday, March 8th and 10th. The Friday evening discourse on March 5th will be delivered by the Hon. J. W. Fortescue on Military History, and on March 12th by W. W. Rouse Ball on String Figures.

INSTRUCTION IN VENEREAL DISEASES AT ST. BARTHOLOMEW'S HOSPITAL CLINIC.—A second post-graduate course of instruction in the diagnosis and treatment of venereal disease is being arranged by Mr. K. M. Walker at St. Bartholomew's Hospital Clinic, Golden-lane, E.C., established by the Corporation of London. The course will be held on Thursday afternoons, at 5.30, commencing on Thursday, March 4th. The beds attached to the clinic are available for the reception and study of suitable cases in addition to work in the out-patient department. There are still a certain number of vacancies. Any medical practitioner wishing to attend is invited to send his name to the Secretary, National Council for Combating Venereal Diseases, 81, Avenue Chambers, Southampton-row, W.C.1.

LITERARY INTELLIGENCE.—Messrs. Masson et Cie. announce the reappearance of the *Revue de la Tuberculose*, discontinued since 1917, under the editorship of Dr. Courcoux and a managing committee of 26 distinguished colleagues. It is the official organ of the Œuvre de la Tuberculose, and appears bi-monthly. Annual subscription in France 30 frs., abroad 35 frs.—A new monthly journal entitled *Gynécologie et Obstétrique* is also appearing, beginning in February, and replacing three journals which may briefly be described as the *Revue Pozzi*, the *Archives*, and the *Annales*. The first number contains 95 pages of original matter alone, with a number of abstracts. The annual subscription is 40 frs. (France), 50 frs. (abroad).—The useful journal of reference entitled *Folia Hæmatologica*, founded by Professor A. Pappenheim, is to be continued under the joint editorship of Dr. O. Nägeli in Zurich and Dr. H. Hirschfeld in Berlin.

Sir Bertrand Dawson has taken the title of Baron Dawson of Penn in the county of Buckinghamshire.

AT the sitting of the Vienna Medical Society held on Jan. 30th, Professor F. K. Wenckebach paid a warm tribute to the memory of Sir William Osler.

ERRATUM.—In commenting last week upon Dr. Murray Leslie's lectures, delivered at the Institute of Hygiene, we stated that the audience consisted of the members of the Royal Sanitary Institute.

PRESENTATION TO A MEDICAL MAN.—Dr. F. H. Haynes, J.P., consulting physician to the Warneford Hospital, Leamington, after completing 50 years as a member of the staff of the hospital, has been presented with an illuminated address and invited to sit for his portrait in oils.

A CENTENARIAN.—The death occurred at Worthing on Feb. 20th of Miss Emmeline Draper, who on Nov. 2nd last attained the great age of 104. Her sight failed her a few years ago, but except for this her senses were wonderfully acute. She was a native of Ostend, where her father, a surgeon in the old 78th Highlanders, had formerly been stationed.

NO. 34 (THE WELSH) GENERAL HOSPITAL AND THE WELSH HOSPITAL, NETLEY.—It is proposed to hold a reunion dinner for all ranks (men and women) in London towards the end of April. Those wishing to attend should notify Mr. R. L. Mackenzie-Wallace, 55, Townshend-road, London, N.W.8, or Mr. E. J. August, 51, Etchingham Park-road, London, N.3, before March 12th.

NO. 3 CASUALTY CLEARING STATION.—It is proposed to hold a reunion dinner of officers who served with this unit on Saturday evening, March 20th, at 7.30 P.M. Officers desirous of being present should communicate with Major A. D. Stirling, D.S.O., R.A.M.C., War Office, Cornwall House, Stamford-street, London, S.E.1, as early as possible. Officers who were attached to the unit will also be welcome.

KING'S COLLEGE, LONDON: OLD STUDENTS' ASSOCIATION.—There is a strong movement on foot for forming a properly constituted Old Students' Association at King's College, London. A committee was lately formed which has drawn up a provisional constitution, and a general meeting has been called for March 4th at 6 P.M. at the College in order to ratify it. It has been possible to send notices of this meeting only to those old students whose names are on the Register, but it is hoped that the meeting will be made widely known, and that as many old students as possible will be there.

DIET AND THE PREVENTION OF INFLUENZA.—A Memorandum published by the Food (War) Committee of the Royal Society states that wrong methods of cooking impair the value of antiscorbutic vitamines, and urges that soda shall on no account be used, and that vegetables shall be cooked rapidly and for as short a time as possible. The Council of the Bread and Food Reform League and other signatories are petitioning the Minister of Health that the attention of the people shall be directed to these subjects, thus enabling them the better to resist the infection of influenza and other epidemics.

THE DUBLIN "CURFEW ORDER."—An order signed by the competent military authority last week requires all persons within the Dublin Metropolitan Police District to remain indoors between 12 midnight and 5 A.M., unless provided with a written permit. It is promised that permits will be granted to clergymen, medical practitioners, and nurses engaged on urgent duties. Any person abroad within the hours mentioned is warned to halt and obey any order given him when challenged by any policeman, officer, non-commissioned officer, or soldier on duty. It is to be hoped that this order will be carried out with due consideration for the care of the sick and the safety of their ministrants.

BANGOR NURSING SOCIETY.—At the annual meeting of this society on Feb. 16th Sir John Byers gave an address on "A Ministry of Health," explaining its origin, composition, and functions, and its relation to Ireland. He showed how far Ireland was behind Scotland and England in public health administration. There was no medical inspection of schools nor school medical clinics, which had existed in these other countries for 10 years; the insurance scheme in Ireland was without medical benefits; there were no county medical officers of health; there were no medical research committees to help in the solution of difficult medical problems. Far too much of public health legislation in the past was of a permissive nature, which naturally often ended in nothing being done. Such was Professor Byers's gloomy conclusion.

THE recent sitting of the Swiss Medical Commission at Berne considered measures to prevent the intrusion of foreigners into medical practice in Switzerland.

THE Proceedings of the Medical Conference of Red Cross Societies, held at Cannes in April, 1919, have now been issued by the League of Red Cross Societies at Geneva in a volume containing portraits of the delegates.

THE LATE DR. R. J. BANNING.—The death of Robert Joseph Banning has occurred at his residence, Helidon, Shoeburyness, Essex, on Feb. 10th, aged 87. Dr. Banning saw the first excursion train leave Liverpool for London, and, during a visit to America, he met George Washington. He was born in Liverpool, where he received part of his medical education at the old medical school. He also studied at the Middlesex Hospital and qualified with the L.S.A. in 1854. As a civil surgeon he took part in the Crimean War and for his services was granted the medal. In 1857 he graduated M.D. at St. Andrews, and in 1858 became a Member of the Royal College of Surgeons of England. For a time he acted as honorary medical officer to the Gateshead Dispensary, subsequently practising at Shoeburyness. During the session 1894–95 he presided over the West London Medico-Chirurgical Society.

BRIGHTON AND HOVE DISPENSARY.—There should be no need to call attention to the excellent work that is being done by the Brighton, Hove, and Preston Dispensary, established over 100 years ago. Statistics of the past year's work give proof of the value of the institution to the townspeople. Yet the year 1919 closed with an overdraft of nearly £1500, and at the annual meeting of the governors it was declared that unless there were more annual subscribers the work of the institution would have to be curtailed by the closing down of some of the wards. A special effort is to be made to relieve the financial strain, and, realising the very useful work of women, the rules were altered so as to permit one-third of the governors to be women.

THE LATE DR. J. H. DAVIES.—John Hopkyn Davies, who died in London on Feb. 10th, was a well-known practitioner at Port Talbot, where he had lived for some 50 years. He was educated in his father's school at Newcastle Emlyn, and afterwards entered at the Middlesex Hospital, qualifying M.R.C.S. Eng. and L.S.A. in 1872. In 1889 he obtained the degree of M.D. Durh. Formerly medical officer to the Aberavon Urban District Council, Dr. Davies was at the time of his death in charge of the health of the Margam district, assistant health officer for Port Talbot, and superintendent of the Margam Sanatorium. He was on the commission of peace for Glamorgan.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE: ANNUAL REPORT.—The annual report of the Council was presented to the Court of Governors at their meeting on Feb. 11th. The report begins with an expression of regret for the death of Professor Frederick Page, who was appointed lecturer on medical jurisprudence in 1875 and filled the office of registrar for about 30 years. With regard to the present position of the medical school the report states:—

> The number of students at present in attendance is 389 (70 women and 319 men), and is the largest in the history of the College, being an increase of 150 over the year 1918, and 220 over that of 1917. This is mainly accounted for by the entrance of men who have been discharged from H.M. Forces since the signing of the peace. Preference of admission to the College was given to these men, about 120 of whom are in receipt of grants towards their maintenance and their tuition fees from the Board of Education. After admitting these ex-Service students it was found impossible, owing to want of accommodation, to receive a good many of the other students who applied.
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> Although the entry of students will, no doubt, fall somewhat next winter the Council is of opinion that the present great demand for qualified medical men and women will not be met for a considerable number of years. In view of this, reference must again be made to the immediate need of increasing the accommodation and the facilities for teaching. During the past year the teaching staff has been strengthened by the appointment of additional assistants in the departments of anatomy, physiology, pathology, and bacteriology, but the endowment of a chair of medical chemistry (biochemistry) and a great increase in the laboratory and other accommodation of the College are crying needs.
>
> A committee of the Council has reported that it is impossible to extend the College on its present limited site sufficiently to meet the requirements of modern medical education, and recommends the erection of a new and greatly enlarged College in the vicinity of the Royal Victoria Infirmary. It is estimated that a sum of about £250,000 will be required to erect and endow the new building. Residential hostels for male and female students are also needed, together with proper housing for the Students' Union Society. To provide these a further sum of about £30,000 is necessary. This College is the only school of medicine between Edinburgh and Leeds, and a good proportion of the medical practitioners of the North of England have been educated in it.

COMPLIMENTARY DINNER TO LORD DAWSON.

ON Wednesday evening, Feb. 25th, a dinner was given by the Federation of Medical and Allied Societies to Lord Dawson of Penn, the occasion being to congratulate him upon his elevation to the peerage. The dinner took place at the Café Royal, Sir Malcolm Morris, the chairman of the Federation, presiding, when a representative body of guests assembled, among those present being Dr. Addison (the Minister of Health), Lord Astor, Sir Robert Morant, Dr. Arthur Latham, Dr. Dawson Williams, Mr. E. B. Turner, Dr. G. E. Haslip, Lord Charnwood, Sir Ronald Ross, Sir W. Arbuthnot Lane, Dr. J. F. Gordon Dill, Dr. E. H. Stancomb, Mr. C. J. Bond, Sir John MacAlister, Dr. W. Elliot, M.P., Dr. Jane Walker, Miss L. Aldrich-Blake, Dr. R. H. Cole, Sir David Ferrier, and Dr. Squire Sprigge.

The Chairman, proposing the health of Lord Dawson, started by pointing out that the new peer might be seduced into giving gratuitous consultations in the Upper House, or be compelled by emergency to attend noblemen suffering from political shock, even from a precipitous fall from the Woolsack. Concluding in a more serious vein, he urged that the presence of a practising physician in the House of Lords was an earnest that in the future doctors would engage more closely in State affairs.

Lord Dawson, in reply, acknowledged frankly the pleasure it gave him to receive appreciation from a representative body of his own colleagues, and repeated Sir Malcolm Morris's message that in the new era medical men would take a greater share in State responsibilities.

Dr. Addison, protesting that he had definitely refused to make a speech, laid stress upon the important position which Lord Dawson occupied as Chairman of the Medical Consultative Committee under the Ministry of Health, and said that in a short time the first report from that body would be published, when its recommendations would have to be read seriously, though it did not follow that it would be possible to adopt them all.

Mr. Bond made an eloquent exposition of what the relations between the public and the medical profession should be in wishing prosperity to the Federation, to which Dr. Howard Mummery replied by stating very clearly the hopes and aims of that body. Mr. E. B. Turner proposed the health of the Chairman, who briefly replied.

The Services.

ARMY MEDICAL SERVICE.

Major-Gen. J. B. Wilson and Col. D. D. Shanahan are placed on half pay.

Temp. Col. A. S. Woodwark relinquishes his commission and retains the rank of Colonel.

Col. T. H. M. Clarke retires on retired pay.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Col. J. G. McNaught retires on retired pay.

Lieut.-Col. C. S. Smith is placed on the half-pay list on account of ill-health.

Major G. H. Stevenson to be acting Lieutenant-Colonel.

The undermentioned relinquish the acting rank of Major: Capt. and Bt.-Major W. E. Marshall; Capts. G. G. Collet and G. A. Bridge; Temp. Capts. P. P. J. Stewart and H. M. Anderson.

Major and Bt. Lieut.-Col. W. Benson relinquishes the acting rank of Lieutenant-Colonel.

Capt. W. S. Martin, from unattached list, T.F., to be Temporary Lieutenant.

Temp. Capt. (acting Major) R. G. Oram (Lieutenant, 9th Lond. R., T.F.) relinquishes his temporary commission.

Capt. P. C. Field is restored to the establishment.

Temp. Capt. H. A. Tillman to be acting Major whilst specially employed.

Officers relinquishing their commissions:—Temp. Hon. Lieut.-Col. J. H. Nicholl (retains the honorary rank of Lieutenant-Colonel). Temporary Majors retaining the rank of Major: W. P. Yetts, J. R. Lee, E. B. C. White. Temp. Hon. Major A. M. Westwater (retains the honorary rank of Major). Temp. Capt. (acting Lieut.-Col.) F. R. Fraser (granted the rank of Major). Temp. Capt. (acting Major) J. W. Innes (granted the rank of Major). Temporary Captains retaining the rank of Captain: J. B. Donaldson, R. H. Liscombe, S. F. McDonald, S. S. Rosebery, G. M. Jones, T. W. Kelly, E. C. Black, A. A. Henderson, C. V. Walker, W. P. Cooney, C. E. Meryon, A. C. B. McMurtrie, J. G. Jones, J. F. Bridge, H. M. Leathes, H. G. Steel, F. J. Fahy, W. R. Reynell, F. M. Bishop.

SPECIAL RESERVE OF OFFICERS.

Capt. J. R. Caldwell resigns his commission.

TERRITORIAL FORCE.

Capt. (acting Lieut.-Col.) J. Tait relinquishes the acting rank of Lieut.-Colonel on ceasing to be specially employed.

Capt. (temp. Major) A. E. Barnes relinquishes the temporary rank of Major.

Major H. H. B. Cunningham to be acting Lieutenant-Colonel whilst specially employed.

Capts. (acting Majors) J. G. F. Hosken and F. Arvor relinquish the acting rank of Major on ceasing to be specially employed.

Capt. J. M. Kirkness is restored to the establishment.

2nd London General Hospital: Capt. H. F. Lancaster is restored to the establishment.

1st Southern General Hospital: Major (Bt. Lieut.-Col.) (acting Lieut.-Col.) J. E. H. Sawyer relinquishes the acting rank of Lieutenant-Colonel on ceasing to be specially employed.

3rd Northern General Hospital: Capt. A. E. Barnes to be temporary Major whilst specially employed.

TERRITORIAL FORCE RESERVE.

Capt. D. W. C. Jones, from General List, to be Colonel.

ROYAL AIR FORCE.

Medical Branch.—Flying Officer G. McK. Thomas to be Flight Lieutenant.

The undermentioned are transferred to the unemployed list: Capts. J. Gardner, G. Meadows, V. Magee; Lieuts. T. Acton, T. E. Roberts.

Dental Branch.—The undermentioned are transferred to the unemployed list: Capts. J. Smith, S. C. Turner.

INDIA AND THE INDIAN MEDICAL SERVICE.

THE Viceroy has selected Lieut.-Col. D. M. Davidson, Civil Surgeon, Lahore, to hold charge of the office of Inspector-General of Civil Hospitals, Punjab, in place of Col. R. C. MacWatt. Major C. E. Palmer, on return from military duty, has assumed charge as Superintendent, Central Prison, at Naini (Allahabad). Captain T. Fleming, R.A.M.C., acts as Civil Surgeon, Port Blair. The Chancellor of the Calcutta University has nominated Dr. Hassan Suhrawardy to be Ordinary Fellow of the Calcutta University. The following officers have reverted to civil employ: Lieut.-Col. G. McIver Smith (Punjab), Lieut.-Col. G. H. Stewart (Burma), Lieut.-Col. E. R. Parry (Bengal), Lieut.-Col. N. R. J. Ramier (Central Provinces). Major F. A. Barker has been appointed Senior Medical Officer in the Andamans and Major Cruikshank has been granted eight months' combined leave. Captain H. K. Downtree has been appointed Additional Assistant Director-General.

THE "ARM BADGE" OF THE R.A.M.C.

With respect to the arm badge of the N.C.O.'s and men of the R.A.M.C., Sir George Evatt writes from the Junior United Service Club making certain recommendations. The badge is worn, he points out, in peace on the sleeve of the tunic as a yellow and white ring with the Red Cross in centre. "It is small, not very distinctive, but is replaced in war by the definite broad white armlet with Red Cross in the centre. I propose to abolish the small yellow and white ring, and replace it *in peace* by the collar badge worn by the R.A.M.C. officers, and in war to give to both officers and men the very definite and unmistakable brassard of the Geneva Convention—viz., the Red Cross on the white brassard." The innovation is calculated, in Sir George Evatt's mind, to unite still more closely the officers, N.C.O.'s, and men of the R.A.M.C., who need the very closest union possible to achieve success in their important duties.

DEATHS IN THE SERVICES.

Surg.-Gen. James Albert Clery, C.B., A.M.S. (retired), died at his residence at Blackheath on Feb. 10th, in his seventy-fifth year. He entered the service in 1871 and during his 35 years in the army he saw a good deal of active service. In the Sudan Expedition of 1884-5, he obtained the medal with clasp and the bronze star, and in the Nile Expedition in 1898 he earned a mention in despatches and received two medals. In the South African War he was principal medical officer on the lines of communication, and was at the relief of Ladysmith. He was twice mentioned in despatches and was subsequently awarded the C.B., the Queen's medal with six clasps, and the King's medal with two clasps.

FOREIGN DECORATIONS.

Chinese.

Order of the Wen-Hu.—4th Class: Temp. Maj. (acting Lt.-Col.) W. H. G. Aspland, R.A.M.C.; Temp. Maj. S. M. Cox, R.A.M.C.; Temp. Maj. T. N. Frood, R.A.M.C.; Temp. Maj. (acting Lt.-Col.) G. D. Gray, O.B.E., R.A.M.C. *5th Class:* Temp. Capt. P. C. Leslie, R.A.M.C.; Temp. Capt. H. D. Matthews, R.A.M.C.; Temp. Capt. E. J. Peill, R.A.M.C.; Temp. Capt. J. W. Pell, R.A.M.C.; Temp. Capt. W. R. Reeds, R.A.M.C.

Panama Republic.

Medal of "La Solidaridad."—3rd Class: Capt. (acting Maj.) W. K. Campbell, D.S.O., M.C., R.A.M.C.; Capt. and Bt. Maj. (acting Maj.) W. L. Webster, R.A.M.C.; Capt. (acting Maj.) J. M. Weddell, R.A.M.C.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 18TH.

Death-rate in British India.

Mr. LUNN asked the Secretary for India what was the death-rate per 1000 in British India from the years 1913 to 1919 inclusive.—Mr. FISHER (Minister of Education) replied: The death-rate per 1000 for the years 1913 to 1918 was as follows: 1913, 28·72; 1914, 30·00; 1915, 29·94; 1916, 29·10; 1917, 32·72; 1918, 62·42. Figures for 1919 are not available. The exceptionally high mortality in 1918 was due to a severe epidemic of influenza.

Municipal Maternity Homes.

Mr. CLOUGH asked the Minister of Health if he would state what action was being taken by his department to promote the establishment of maternity homes by municipal authorities.—Dr. ADDISON replied: The Local Government Board and the Ministry of Health have for some time pressed upon local authorities both in general circulars and in individual letters the importance of the provision and maintenance of maternity homes, and have obtained Treasury sanction for a grant of half the approved expenditure on these purposes. A memorandum has just been issued and will be placed on sale giving guidance as to suitable plans and equipment and so forth. During the last year or so about 25 such homes were established by municipal authorities and about 20 by voluntary bodies, who as a rule received financial assistance from local authorities. Many similar homes have been planned and are likely to be established in the near future.

Queen Alexandra's Nurses and Wound Gratuity.

Lord HENRY CAVENDISH-BENTINCK asked the Secretary for War if he would explain why a wound gratuity and wound pension was refused to Miss Eileen King, a member of Queen Alexandra's Nursing Service, who was severely wounded by hostile bombs while on military duty in France and passed permanently unfit for further military service.—Sir A. WILLIAMSON (Financial Secretary to the War Office) replied: Members of the Queen Alexandra's Imperial Military Nursing Service are not eligible for wound gratuities or wound pensions. The question of the rate of disability retired pay for which Miss King may be eligible is a matter for the Ministry of Pensions, and as I have already informed the noble Member, her case has been referred to that department.

Allegations against Army Medical Hospitals.

Major STEEL asked the Secretary for War whether his attention had been called to complaints alleged to have been made by patients in army mental hospitals regarding their treatment in such hospitals; whether such complaints had been investigated; if so, with what result; whether and, if so, in what respects the system of treatment in army mental hospitals had differed from the system of treatment generally adopted in mental hospitals under public control; whether he was satisfied with the results yielded by the present system of treatment; and whether he was prepared to order an inquiry into the allegations made directly against the officials of the army mental hospitals and indirectly against the Army Medical Department.—Mr. CHURCHILL replied: My attention has been called to the alleged complaints. Strict orders were issued by the Director-General, Army Medical Service, that every complaint, however made or of whatever nature, should be immediately inquired into. These orders, I believe, have been strictly observed, and such action as inquiry justified has invariably been taken. In no case has it been found that there was ground for serious complaint, and the suggestions of careless treatment and of deliberate ill-treatment in these hospitals are unjustified. The utmost care has been taken in the treatment of soldiers suffering from early mental disorders, and the system of treatment followed, which was adopted after consultation with the most expert authorities on the subject, has been acknowledged by those best qualified to judge to be in some respects an improvement on the system generally adopted in civil mental hospitals. The results have been highly satisfactory, as is evidenced by the higher recovery-rate and the lower death-rate as compared with civil institutions of similar type. I am satisfied that the general allegations made against the officials of the army mental hospitals and the Army Medical Service are entirely unjustified, and I see no occasion for ordering an inquiry of the nature suggested.

Vaccination.

Mr. CHARLES EDWARDS asked the Minister of Health whether he was aware that more than half the children

born at the present time were withheld from vaccination; whether under the present Vaccination Acts the proportion of unvaccinated children of each year's birth was steadily increasing; whether nearly 40 per cent. of the births each year were exempted from vaccination by the statutory declaration of their parents of objection to the operation; and in what way would the health of the community be involved by the repeal of the compulsory clauses of the Vaccination Acts, seeing that under present conditions such a large number of children remained unvaccinated, while small-pox was less prevalent than in the years when a far larger proportion of children were vaccinated.—Dr. ADDISON replied: The facts are approximately as stated in the first part of the question. I am, however, of opinion that the repeal of the compulsory clauses of the Vaccination Acts would result in a still larger proportion of children remaining unvaccinated, and thus the whole community would be less protected. Small-pox is prevalent at the present time in various parts of Europe, Canada, and America, and in view of the risks of the introduction of the disease into this country I am not prepared to take any action which would tend to increase the number of persons in this country who are unprotected by vaccination.

National Health Insurance Accounts.

Captain COOTE asked the Minister of Health whether he could give figures showing the receipts and expenditure for the past year under the National Health Insurance Act; whether he was aware of the inadequacy, felt in many instances, of the maximum benefit of 5*s.* per week; and whether there was any possibility of an increase of this amount being granted, with or without an increase in the rates of contribution.—Dr. ADDISON replied: As regards the first part of the question the only figures at present available are those of receipts and payments of the National Health Insurance funds, a summary of which I am circulating. As regards the second and third parts of the question the revision of health insurance contributions and benefits has been under consideration for some time, and I hope to be in a position to introduce a Bill to amend the existing provisions at an early date. The summary of accounts is as follows:—

Statement of Receipts and Payments of the National Health Insurance Funds (England and Wales) in the Year 1919.

RECEIPTS.

	£
Balance at Dec. 31st, 1918	801,880
Sale of stamps	14,386,898
Contributions paid in cash	1,730,275
Exchequer grants	6,609,226
Interest on investments in securities selected by societies held on behalf of societies	247,213
Sums withdrawn from temporary investment	415,000
	£24,190,492

PAYMENTS.

	£	£
Issues to meet cost of benefits and expenses of administration:—		
Approved Societies	8,695,898	
Insurance Committees, &c.	7,068,017	
Deposit contributors and Navy and Army Insurance Fund, &c.	184,009	
		15,947,924
Issues to Societies for Investment		7,810,989
National Debt Commissioners: Investments on behalf of Approved Societies (Officers) Guarantee Funds		2,800
Miscellaneous		1,329
Balance at 31st December, 1919		427,450
		£24,190,492

THURSDAY, FEB. 19TH.

War Office and Metropolitan Asylums.

Lieutenant-Colonel JAMES asked the Secretary for War if he would state the number of beds belonging to the Metropolitan Asylums Board still held by the War Office.—Mr. CHURCHILL replied: Only three Metropolitan Asylums Board institutions are not yet handed back to that Board—the Tooting Grove, the Lower Southern Hospital at Dartford, and the Orchard Hospital at Dartford. These three hospitals are empty or in process of being evacuated and will be finally handed over on the 29th of this month. It is understood that for the purposes of accommodation for civilian infectious cases the number of beds in these three institutions is reckoned at 1947.

Dental Legislation.

Mr. RAFFAN asked the Minister of Health whether it was proposed to introduce legislation during the present session of Parliament for the purpose of carrying out the recommendations of the Departmental Committee on the Dentists Act, 1878.—Dr. ADDISON: It is hoped to introduce legislation during this session, but I am not yet in a position to make a definite statement.

Veterinary Surgeons Act, 1881, Amendment.

Sir WATSON CHEYNE presented a Bill "to amend the Acts relating to the practice of veterinary surgery and medicine." The Bill was read a first time.

MONDAY, FEB. 23RD.

Precautionary Measures in Influenza.

Dr. NATHAN RAW asked the Minister of Health whether he could make any statement as to the incidence of influenza in this country, and what preparations had been made by the Minister of Health for dealing with an epidemic should it occur.—Dr. ADDISON replied: There has been a slight increase in the number of deaths from influenza during recent weeks and a few significant outbreaks in schools and other institutions, but otherwise there is no evidence at present of unusual prevalence of the disease in this country comparable to the definite new waves of influenza which are occurring in American cities and on the Continent. The Ministry keep a constant watch on the occurrence of influenza at home and abroad, and have put themselves in a position to observe closely the progress of any epidemic wherever it may occur. Information is derived from returns as to epidemics obtained from Consular agents and from other official sources all over the world. As regards the prevalence of the disease at home information is obtained from the weekly returns of influenza mortality in the 96 great towns issued by the Registrar-General and from returns of cases of acute influenzal-pneumonia, the notification of which is not obligatory on all medical practitioners in England and Wales. Returns of cases of influenza are also furnished voluntarily every week by a number of schools, institutions, and representative industrial firms throughout the country. All data on the subject, statistical as well as scientific, come before an Influenza Committee, which is a Medical Standing Committee of the Ministry of Health holding frequent meetings and on which sit medical representatives of various Government Departments. A vaccine against influenza has been prepared by the Ministry and is now being issued on demand to medical officers of health for distribution free of charge among medical practitioners within their districts. Careful consideration has been given to all practicable means of protecting the country from the introduction of influenza through the ports. The knowledge and experience accumulated during recent epidemics have been collected and issued to local authorities at various times in the last 12 months. A Memorandum has been issued to local authorities explaining the measures (both administrative and personal) which with our present knowledge are deemed best calculated to prevent the spread of influenza and to lessen mortality from the disease. A popular leaflet has also been issued and widely circulated through local authorities setting out the best measures of guarding against infection, together with advice to patients as to the best known means of securing a speedy return of convalescence and the avoidance of those complications which constitute the special danger of influenza. Meanwhile, much active investigation continues by the medical officers of the Ministry into the causes of epidemics of influenza. Special inquiry is being made by them in selected districts into such questions as immunity, the effects of overcrowding, incidence according to age, and so on. In certain of these areas arrangements have been made, in consultation with the Medical Research Committee, for the coöperation of medical officers of the Ministry, medical officers of health, and bacteriologists in the investigation of the origin, the spread, and best means of combating the disease.

Professional Training for Ex-Service Men.

Replying to Mr. ALFRED DAVIES, Sir R. HORNE (Minister of Labour) stated that he understood from the Minister of Education that he had sanctioned grants to some 2408 men training in the medical and dental professions.

Part-time and Whole-time Medical Remuneration.

Major HENDERSON asked the Parliamentary Secretary to the Pensions Ministry if he would state the remuneration of part-time and whole-time medical officers employed in the London area.—Sir J. CRAIG replied: Part-time medical officers are paid by a fee per session of two and a half hours. The fee varies from 1½ guineas to 2 guineas, according to the class of work required. Whole-time medical officers in the London area are paid annual salaries ranging from £750 to £1200.

Schools for Defective and Epileptic Children.

Major HILLS asked the President of the Board of Education if he would state when the obligation to establish special schools, other than boarding schools, for physically defective and epileptic children became operative.—Mr. FISHER replied: Section 20 of the Education Act, 1918, comes into operation on April 1st next.

Treatment of Service Mental Cases.

The House went into Committee of Supply on Army Estimates for 1920–21, Mr. WHITLEY in the chair.

On a vote on account of £75,000,000 for Army Services,

Mr. SPOOR called attention to the War Office treatment of mental cases. Nothing that modern science or human goodwill could do, he said, was too much to be done for

these men. Allegations had been made in the press of a most serious character. If 15 per cent. of truth was contained in those allegations there was abundant justification for an immediate and impartial inquiry. The honourable Member quoted from a paragraph which he said had appeared in the *Daily Herald* to the effect that it was estimated that between 20,000 and 30,000 shell-shock patients had been treated in the military hospitals. Many of the brave men sent back from France speechless or witless for the time being through shock were given the treatment of prisoners in gaol.

Sir A. WILLIAMSON, replying for the War Office, said that in 1915 the President of the Royal College of Physicians, at the invitation of the Army Council, arranged for a committee of members of the College to visit the various military hospitals in which nerve shock and mental cases were being treated and to submit a report on the adequacy or otherwise of the arrangements made for the care and treatment of the patients. There was a report which was satisfactory, and further supervision had been made of these hospitals and asylums and patients. Hospitals were frequently visited and it was the unvarying rule that any complaint was immediately investigated. Some cases had been investigated and there was found to be no foundation for the statements which had been made. Several allegations had been made, however, against the Lord Derby War Hospital, and the visiting committee and the hospital immediately pressed for an independent inquiry, and the War Office authorities were fully prepared to offer every facility for the fullest inquiry on a prima facie case for inquiry being shown.

Brigadier-General PAGE CROFT said that he thought that Mr. Spoor should not make statements such as he had made unless he had proved the facts, because it was an unpardonable calumny against the conduct of the authorities of this country. Although he had had a great deal to do with many of these mental cases he had never heard charges of that description before.

The vote was agreed to.

Communications, Letters, &c., to the Editor have been received from—

A.—Mr. G. G. Alderson, Kenilworth; Mr. A. S. Anderson, Northampton.
B.—Mr. G. P. Blizard, Lond.; Board of Trade, Lond.; Bread and Food Reform League, Lond., Sec. of; Miss W. F. Buckley, Lond.; Dr. W. B. Bell, Liverpool.
C.—Mr. F. R. Cave, Bath; Central Council for District Nursing in London, Hon. Sec. of; Chadwick Trust, Lond.; Dr. H. C. Cameron, Lond.; Dr. R. Creasy, Lond.
D.—Dr. T. B. Davies, Lond.
F.—Mr. J. E. Frazer, Lond.
G.—General Electric Co., Lond.; Dr. W. E. Gye, Lond.; Dr. J. S. Goodall, Lond.; Great Northern Central Hospital, Lond., Sec. of; Mr. A. K. Glen, Glasgow; Dr. M. Greenwood, Loughton; Dr. R. P. Garrow, Lond.; Dr. H. H. Gellert, Lond.; Prof. J. A. Gunn, Oxford.
H.—Hunterian Society, Lond.; Mr. Hartley-Sharpey, Lond.; Prof. R. Howden, Newcastle-on-Tyne; Prof. A. J. Hall, Sheffield; Dr. I. Harris, Liverpool.
J.—Dr. J. L. Jona, Melbourne; F. Johnson, Redhill.
K.—Mr. C. M. Kennedy, Plymouth.
L.—Dr. R. L. Ley, Great Yarmouth; Prof. F. de Lapersonne, Paris.
M.—Ministry of Health, Lond.; Sir G. H. Makins, Lond.; Dr. G. Monod, Lond.; Dr. F. H. Morison, Carlisle; Dr. F. H. Moore, Thaxted.
N.—National School of Acting and Dramatic Companies, Lond.; National Council for Combating Venereal Diseases, Sec. of.
O.—Rev. E. G. O'Donoghue, Lond.
P.—Dr. A. G. Phear, Lond.
R.—Royal Society, Lond.; Royal Mail Steam Packet Co., Lond.; Dr. F. E. Rainsford, Dublin; Miss B. F. Runge, Lond.
S.—Mr. F. Souter, Lond.; Dr. G. A. Stephens, Swansea; Dr. P. Schou, Christiania; Dr. L. S. Sandeman, Aberdeen; Society of Tropical Medicine and Hygiene, Lond.; Capt. C. F. Strange, R.A.M.C.; Dr. H. Batty Shaw, Lond.; Dr. R. V. Solly, Exeter; Dr. B. H. Spilsbury, Lond.
T.—Mr. J. Tennant, Lond.; Dr. F. Thomson, Lond.
V.—Vocal Therapy Fund, Hon. Sec. of.
W.—Winget, Ltd., Lond.; West London Hospital Post-Graduate College, Sec. of; Dr. A. E. L. Wear, Leeds; Dr. H. M. Woodcock, Lond.
Z.—Mr. A. M. Zamora, Lond.

YALE UNIVERSITY.—Two Seessel Fellowships, of the value of $1000 each, are offered for original research in biological studies at Yale University. These Fellowships are open to either men or women. In making the award, preference is given to graduates of universities who have already obtained their Doctorate, and who have demonstrated by previous work their fitness to carry on successfully original research of a high order in one of the three departments of biological studies: physiology (including physiological chemistry), zoology, and botany. Applications for these Fellowships must be made to the Dean of the Graduate School, Yale University, New Haven, Connecticut, before May 1st, and should be accompanied by (1) reprints of scientific publications by the applicant; (2) letters of recommendation; (3) a statement of the particular problem to be investigated.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Tuesday, March 2nd.

SURGERY: SUBSECTION OF ORTHOPÆDICS (Hon. Secretaries—A. S. Blundell Bankart, R. C. Elmslie): at 5 P.M.

Cases and Specimens:
Mr. Laming Evans: (1) Osteosclerosis of the Femur; (2) Skiagram and Microscopic Section of Periosteal Sarcoma of the Femur.
Mr. W. T. Gordon Pugh: (1) Exostosis of the Radius; (2) Achondroplasia.
Mr. R. C. Elmslie: (1) Mid-Carpal Fracture-dislocation; (2) Cyst of the Tibia.

PATHOLOGY (Hon. Secretaries—J. A. Murray, Cecil Price-Jones): at 8.30 P.M.
Mr. A. H. Drew and Dr. J. A. Murray: Observations on the Staining and Constitution of Mitochondria.
Dr. E. H. Kettle: Demonstration of Experimental Aspergillosis in the Rabbit.
Dr. Da Fano: Summary of Recent Work on Disseminated Sclerosis.

Wednesday, March 3rd.

SURGERY (Hon. Secretaries—Cyril A. R. Nitch, Herbert J. Paterson): at 5.30 P.M.

Specimens will be on view from 4.30 P.M.
Discussion:
On "The Remote Results of the Surgical Treatment of Gastric and Duodenal Ulcers," with exhibition of specimens. To be opened by Mr. Herbert J. Paterson. The following Members have promised to take part in the discussion:—The President (Sir John Bland-Sutton), Sir D'Arcy Power, Mr. W. G. Spencer, Dr. Robert Hutchison, Mr. James Sherren, Dr. Chas. Bolton, Mr. G. Grey Turner, Mr. Garnett Wright, Mr. Cyril Nitch, Dr. A. F. Hurst, Mr. Chas. Ryall, Mr. Jocelyn Swan, Mr. H. W. Carson, Mr. Joseph Cunning, Sir Crisp English, Mr. R. P. Rowlands, Mr. A. J. Walton.

OPHTHALMOLOGY (Hon. Secretaries—Malcolm Hepburn, W. H. McMullen): at 8 P.M.

Cases and Specimens:
Mr. Leslie Paton: Cobalt Glass for Use in Estimating Refraction.
Mr. W. H. McMullen: Lacrymal Cyst.
Papers (8.30 P.M.):
Mr. Leslie Paton: Note on the Use of Cobalt Glass in Estimating Refraction.
Mr. Charles Goulden: Treatment of Prolapse of the Iris following Accident, with a Note on the Removal of Non-magnetic Foreign Bodies from the Anterior Chamber.

Thursday, March 4th.

BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—J. Campbell McClure, C. F. Sonntag, F. G. Thomson): at 5.30 P.M.
Dr. W. Edgecomb: Visceral Fibrositis.
Discussion:
On Dr. Ferreyrolles's paper "Immunity and Mineral Water Treatment." (See Proceedings, vol. xii., No. 9, August, 1919.)
Exhibition by Dr. C. F. Sonntag of a Painting of Bagnigge Wells in 1790.
Members of the Section of Pathology are cordially invited to attend this meeting.

OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—J. S. Fairbairn, Herbert Williamson): at 8 P.M.
Specimen:
Mr. V. Zachary Cope: Interstitial Ectopic Gestation.
Short Communications:
Dr. Gordon Luker: (1) Rupture of the Bladder associated with Three Months' Pregnancy; (2) Late Post-partum Hæmorrhage treated by Blood Transfusion and Panhysterectomy.
Paper:
Mr. Gordon Ley: Utero-placental Apoplexy (Accidental Hæmorrhage). An Analysis of 50 Cases.

Friday, March 5th.

LARYNGOLOGY (Hon. Secretaries—Irwin Moore, Charles W. Hope): at 4.45 P.M.
Cases and Specimens (4 P.M.) will be shown by—
Dr. Dundas Grant, Mr. Douglas Harmer, Dr. William Hill, Dr. Kelson, Sir William Milligan, Mr. W. M. Mollison, Dr. Irwin Moore, Mr. Rose, Dr. Scripture, and Dr. Andrew Wylie.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, March 1st.—9 P.M., Lettsomian Lecture: Dr. H R. Spencer: Tumours Complicating Pregnancy, Labour, and the Puerperium. (Lecture III.)

RONTGEN SOCIETY, in the Barnes Hall of the Royal Society of Medicine, 1, Wimpole-street, W.
TUESDAY, March 2nd.—8 P.M., General Meeting. Silvanus Thompson Memorial Lecture:—Prof. W. H. Bragg: Analysis by X Rays.

ASSURANCE MEDICAL SOCIETY, at the Medical Society of London, 11, Chandos-street, W.
WEDNESDAY, March 3rd.—5 P.M., Council Meeting. 5.30 P.M., Presidential Address:—Dr. T. D. Lister.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.
TUESDAY, March 2nd, AND THURSDAY.—5 P.M., Milroy Lectures:—Dr. A. Castellani, C.M.G.: The Higher Fungi in Relation to Human Pathology. (Lectures II. and III.)

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, in the Hall of the College, 9, Queen-street, Edinburgh.
MONDAY, March 1st, WEDNESDAY AND FRIDAY.—5 P.M., Morison Lectures:—Dr. R. G. Rows: Mental Illnesses.

UNIVERSITY OF LONDON.
Advanced Lectures in Physiology to Students of the University and others interested in the subject.
A Course of Eight Lectures on Physiologically Balanced Solutions will be given by Dr. W. L. Symes in the Physiological Laboratory of the University, South Kensington, S.W.:—
TUESDAY, March 2nd.—5 P.M., Lecture VI.
A Course of Eight Lectures on the Reaction of the Blood and Acidosis will be given by Dr. J. W. Trevan, at St. Bartholomew's Hospital, West Smithfield, E.C.:—
WEDNESDAY, March 3rd.—4.30 P.M., Lecture VI.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Mile End, E.
A Course of Instruction on the Diseases of Children, open to Post-Graduates and to Students of the Hospital. (The lectures will be illustrated by lantern slides.)
MONDAY, March 1st.—9.15 A.M., Lecture VIII.:—Dr. Thompson: Organic and Functional Nervous Diseases, Meningitis and Mental Deficiency. (At the Anatomical Theatre.)
WEDNESDAY.—10 A.M., Clinical Demonstration:—Dr. Miller. (At the Children's Out-patient Department.)
SATURDAY.—10.15 A.M., Lecture IX., Dr. Hutchison: General Diseases. (At the Anatomical Theatre.)

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).
A Course of Lectures on Syphilis is being given by various members of the staff of King's College Hospital during the present year.
FRIDAY, March 5th.—9.15 P.M., Prof. Sir StClair Thomson: Syphilis of the Throat, Larynx, &c.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART POST-GRADUATE COURSE, Westmoreland-street, W.
MONDAY, March 1st.—11 A.M., Out-patients: Dr. Goodall. 2 P.M., In-patients: Dr. Moon.
TUESDAY.—2 P.M., Out-patients: Dr. R. Wells. 3 P.M., In-patients: Dr. Gibbes.
WEDNESDAY.—2 P.M., Out-patients: Dr. Moon. 5.30 P.M., Lecture:—Dr. Moon: Syphilis and the Circulatory System.
THURSDAY.—10 A.M., In-patients: Dr. Hamill: 2 P.M., Out-patients: Dr. Price.
FRIDAY.—2 P.M., Out-patients: Dr. Gibbes. 2.30 P.M., In-patients: Dr. Wells.
SATURDAY.—10.30 A.M., In-patients: Dr. Hamill.

ROYAL INSTITUTE OF PUBLIC HEALTH, in the Lecture Hall of the Institute, 37, Russell-square, W.C.
Special Course of Lectures and Demonstrations on Tuberculosis for Medical Men and Women qualifying to become Tuberculosis Officers, General Practitioners, and others. Bacteriological Demonstrations will be given in the Laboratories of the Institute, and visits arranged to Sanatoriums, Tuberculosis Dispensaries, &c.
THURSDAY, March 4th.—5 P.M., Lecture VIII.:—Dr. T. G. Maitland: Hospital Treatment of Pulmonary Tuberculosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
TUESDAY, March 2nd.—2 P.M., Demonstration (I.):—Dr. A. J. Whiting: The Early Diagnosis of Pulmonary Tuberculosis. 4.30 P.M., Lecture:—Dr. J. H. Evans: Septic Conditions of the Gall Bladder and Bile Passages.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C. 1.
MEDICAL SCHOOL.
MONDAY, March 1st.—2-3.30 P.M., Out-patient Clinic: Dr. Collier. 3.30 P.M., Ward Cases: Dr. Aldren Turner.
TUESDAY, March 2nd.—2-3.30 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Dr. Risien Russell.
WEDNESDAY, March 3rd.—2 P.M., Mr. Sargent: Injuries of Peripheral Nerves and their Surgical Treatment. (I.) 3.30 P.M., Dr. James Taylor: Subacute Combined Degeneration of Spinal Cord.
THURSDAY, March 4th.—2-3.30 P.M., Out-patient Clinic: Dr. Farquhar Buzzard. 3.30 P.M., Dr. Hinds Howell: Syphilis of the Nervous System. I.
FRIDAY, March 5th.—2-3.30 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Ward Cases: Dr. Collier.
SATURDAY, March 6th.—9 A.M., Surgical Operations.
Fee for Post-Graduate Course £7 7s. C. M. HINDS HOWELL, Dean.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
SATURDAY, Feb. 28th.—10 A.M, Mr. Banks Davis: Operations of the Throat, Nose and Ear.
MONDAY, March 1st.—5 P.M., Dr. Robinson: Gynæcology.
TUESDAY.—5 P.M., Mr. T. Gray: Congenital Dislocation of the Hip.
WEDNESDAY.—2 P.M., Mr. D. Armour: Special Surgical Cases.
THURSDAY.—5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.
FRIDAY.—5 P.M., Special Lecture:—Dr. D. Hood: Some of the Clinical Aspects of Aortic Disease.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY, March 3rd.—4.30 P.M., Dr. Batty Shaw: Body Weight in Adult Consumptives.

UNIVERSITY OF SHEFFIELD—FACULTY OF MEDICINE POST-GRADUATE DEMONSTRATIONS, at the Sheffield Royal Hospital.
MONDAY, March 1st.—3.30 P.M., Dr. Nutt: X Ray Examination of Intestinal Tract.
TUESDAY.—4 P.M., Dr. Hay: Heminanopia: Cerebral Localisation.
WEDNESDAY.—3.30 P.M., Dr. Wilkinson: Minor Aural Cases and their Management.
THURSDAY.—3.30 P.M., Dr. Skinner: Acne Vulgaris: Ringworm, &c.
FRIDAY.—4 P.M., Dr. Hay: Diseases of Retina and Choroid.

UNIVERSITY OF BIRMINGHAM—FACULTY OF MEDICINE, in the Anatomical Theatre, Edmund-street, Birmingham.
Post-Graduate Course of Lectures on Venereal Disease:—
WEDNESDAY, March 3rd.—4.15 P.M., Dr. E. Assinder: Pathological Aspect of Venereal Disease.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, March 2nd.—4.30 P.M., Lecture:—Prof. H. R. Dean: The Wassermann Reaction.

SALFORD ROYAL HOSPITAL AND ANCOATS HOSPITAL POST-GRADUATE DEMONSTRATIONS, at the two Hospitals alternately.
THURSDAY, March 4th.—4.30 P.M., Lecture:—Dr. Ashby: Treatment of Heart Disease in Children. (At Salford Royal Hospital.)

BRIGHTON DIVISION OF THE BRITISH MEDICAL ASSOCIATION, at the Sussex County Hospital.
THURSDAY, March 4th.—4 P.M., Clinical Demonstration.

Appointments

CHRONNELL, J., M.R.C.S., L.R.C.P., has been re-appointed Whole-time Officer to the Urban District of Hindley.
GRANT, J. C. B., M.B., Ch.B. Glasg., has been appointed to the Chair of Anatomy in the University of Manitoba.
PEARSON, W. J., D.M. Oxon., M.R.C.P. Lond., Physician to Out-patients, Hospital for Sick Children, Great Ormond-street.
SAINT, C. F. M., C.B.E., M.S., F.R.C.S., Professor of Surgery in the University of Cape Town.
STIBBE, E. P., M.R.C.S., L.R.C.P. Lond., to the Chair of Anatomy in the School of Mines and Technology, Johannesburg.
WARBURTON, G. B., Ch.M., F.R.C.S. Eng., Assistant Surgeon, Manchester Children's Hospital.
WILLIAMSON, A. J., M.D., D.P.H., Assistant Medical Officer of Health for Essex and Medical Officer of Health for the Lexden and Winstree Rural District.
Certifying Surgeons under the Factory and Workshop Acts: BROWNE, H. J. M., M.D. Edin. (Hoylake); SMITH, J. G. (Buckie); LISTER, T. E., M.B., Ch.B. Leeds (Wakefield); CUTLER, F. J., M.R.C.S., L.R.C.P. Lond. (Hastings); BINNS, C. C. H., M.B., B.C. Cantab. (Leicester, East); LEIGH, H. V., M.B., B.S. Durh. (Nelson).
School Medical Inspectors to the Essex Education Committee: RANKINE, MARY D., M.B. Edin., and WEIR, MARY M., M.B. Glasg.

Vacancies.

For further information refer to the advertisement columns.

Ashton-under-Lyne District Infirmary.—Asst. H.S. £200. Second Asst. H.S. £150.
Birkenhead Borough Hospital.—Sen. and Jun. H.S.'s. £200 and £170.
Birmingham Dudley-road Hospital.—Sen. Asst. M.O. £375. Also Jun. M.O. £275.
Bridgend, Glamorgan County Asylum.—Jun. Asst. M.O. £350.
Bristol General Hospital.—Pathologist and Curator of the Museum. £500. Also Two H.P.'s, H.S., Obstet.O., and H.S. All £175.
Bristol, Ham Green Isolation Hospital and Sanatorium, Pill, near Bristol.—Asst. Res. M.O. £300.
Cambridge, Addenbrooke's Hospital.—Hon. Asst. P.
Cambridgeshire Mental Hospital, Fulbourn, near Cambridge.—Asst. M.O. £400.
Chartham, near Canterbury, Kent County Mental Hospital.—Jun. Asst. Third M.O. £300.
Chichester, West Sussex County Mental Hospital.—Second Asst. M.O. £350.
City Dispensary, 29 and 30, College-street, Dowgate Hill, E.C.—P.
Croydon Borough Hospital for Infectious Diseases.—Res. M.O. £500. Asst. Res. M.O. £350.
Croydon County Borough Mental Hospital, Upper Warlingham, Surrey.—Second Asst. M.O. £500.
Derby, Derbyshire Royal Infirmary.—Ophth. H.S. £200. Asst. H.S. and Cas. O. £200.
Devonport, Royal Albert Hospital.—H.S. £200.
Doncaster Borough.—Asst. M.O. and Sch. M.O. £500.
Dorchester, Dorset County Council Education Committee.—School Dentists. £400.
East Suffolk County Education Committee.—Dentist. £400.
Essex County Council and Clacton Urban District Council.—Asst. County M.O.H. and M.O.H. £600.
Essex County Council.—Asst. County and Sch. M.O. and Mental Expert. £750.
Gateshead Dispensary.—Asst. M.O.
Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—H.P and Asst. H.S. £175 and £150 each.
Great Northern Central Hospital, Holloway, London, N.—Path. Asst. 300 gs. Also S.
Hampstead Infirmary.—Res. Med. Supt. £700.
Huddersfield, Bradley Wood Sanatorium for Pulmonary and Surgical Tuberculosis.—Res. M.O. £500.
Johannesburg (University of South Africa), South African Medical School of Mines and Technology.—Prof. Vet. Anat. £800.
Lancashire County Council, School Medical and Child Welfare Department.—Two Asst. County M.O.'s. £800.
Lancaster County Asylum.—Asst. M.O. £300.
Leeds Education Committee.—Sen. Sch. Dent. O. £600. Asst. Sch. Dent. O. £450.
Leeds Public Dispensary.—Res. M.O. £200. Also Hon. Radiologist.
Leicester City Hospital and Sanatorium, Groby-road.—Two Res. M.O.'s. £400 and £300.
Liverpool, David Lewis Northern Hospital.—Two H.P.'s and Three H.S.'s. £150.
Liverpool, Royal Southern Hospital.—Hon. Ophthal. S. Also Hon. Asst. P. Also two H.P.'s and three H.S.'s £100.
Liverpool, West Derby Union, Mill-road Infirmary.—Asst. Res. M.O. £280.

London Lock Hospital, Harrow-road, W.—H.S. £300.
London Temperance Hospital, Hampstead-road, N.W.—Medical Registrar. 40 guineas.
Loughborough and District General Hospital and Dispensary.—Res. H.S. £200.
Maidenhead, Bray Court, Home for Neurasthenic Sailors and Soldiers.—Res. M.O. £500.
Maidstone, Kent County Ophthalmic Hospital.—Hon. Aural S.
Maidstone, West Kent General Hospital.—H.P. £200.
Manchester Children's Hospital, Pendlebury, near Manchester.—Res. M.O. £150. Also Asst. P. £50.
Manchester, St. Mary's Hospitals for Women and Children.—Asst. M.O. £75.
Manchester Royal Eye Hospital.—Hon. P. Also Jun. H.S. £120.
Middlesex Hospital.—Cas. Surg. O.
Miller General Hospital for South-East London, Greenwich, S.E.—M.O. Also H.P. and Registrar. £100.
Monmouthshire Education Committee.—Asst. M.O. £500. Also Sch. Dentist. £400.
Newark-on-Trent, Newark Hospital and Dispensary.—Res. H.S.
Newcastle-upon-Tyne, City Hospital for Infectious Diseases, Walker Gate.—Res. M. Asst. £350.
Newcastle-upon-Tyne, Royal Victoria Infirmary.—Anæsth. £120.
Newport Education Committee.—Dentist. £500.
Norwich City.—Asst. Sch. M.O. £500.
Norwich, Norfolk and Norwich Hospital.—H.S. £200.
Nottingham General Hospital.—Hon. M.O. for X Ray and Electro-Therapeutic Dept. Also H.P. £150.
Portsmouth Workhouse Infirmary, Workhouse and Children's Home.—First. Asst. M.O. £300.
Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Asst. S.
Queen Mary's Hospital for East End, Stratford, E.—H.P. and H.S.
Queensland, Institute Tropical Medicine, Townsville.—Physiologist and Biochemist. £700.
Reading, Royal Berkshire Hospital.—Pathologist. £600.
Rousay and Egilshay, Orkney.—Res. M.O. £300.
Royal Chest Hospital, City-road, E.C.—H.P. £120.
Royal Institute of Public Health, 37, Russell-square, London, W.C.—Sen. Demonstrator of Bacteriology.
St. Bartholomew's Hospital and College.—Demonstr. of Pathology.
St. Mary's Hospital for Women and Children, Plaistow, London, E.—Res. M.O. £200.
Salford Royal Hospital.—Res. S.O. £250. H.P. £200. H.S., Jun. H.S., and Cas. H.S., £150 each.
Scunthorpe and Frodingham Urban District Council.—M.O.H. and Venereal Diseases Officer. £600.
Seamen's Hospital Society, Dreadnought Hospital, Greenwich.—P. 50 gs. Three Anæsth.'s. 50 gs. H.S. £100.
Sheffield Children's Hospital.—H.S. £200.
Sheffield Royal Hospital.—Asst. Cas. O. £150.
Sheffield Royal Infirmary.—Radiologist. £100.
Southampton, Royal South Hants and Southampton Hospital.—Sen H.S. £250. H.P. £150.
Southport General Infirmary.—Jun. H.S. £175.
South Russia.—M.O. as Medical Adviser to Red Cross Unit. £700.
Stamford, Rutland, and General Infirmary.—H.S. £200.
Sunderland, Royal Infirmary, Children's Hospital.—Res. M.O. £200.
Taunton and Somerset Hospital.—Hon. P. and Hon. S.
Turks and Caicos Islands.—M.O. £400.
University College Hospital Medical School.—Radcliffe Crocker Travelling Scholarship in Dermatology. £280.
Victoria Hospital for Children, Tite-street, Chelsea, S.W.—P.'s.
Warwick County Lunatic Asylum.—Sec. Asst. M.O. £300.
Wigan County Borough Education Committee.—Sch. Dentist. £150.
Willesden Institution, Acton Lane.—Res. Asst. M.O. £300.
Winchester, Royal Hampshire County Hospital.—H.P. £250.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Toddington, Berkeley, Lochgilphead, Bruff, Clonakilty, Belturbet, Halstead, Stock, Stourport, and at Romford.

Births, Marriages, and Deaths.

BIRTHS.

BANBURY.—On 26th January, at 107, East Dulwich Grove, S.E., the wife of R. A. Banbury, M.R.C.S., L.R.C.P., of a daughter.
MALING.—On Feb. 13th, at Walthamstow, the wife of G. A. Maling, V.C., M.B., of a son.
THOMPSON.—On Feb. 19th, at Royal Hospital, Chelsea, the wife of Major R. J. C. Thompson, C.M.G., D.S.O., R.A.M.C., of a son.
WILLIAMSON.—On the 23rd February, at "Thurlstone," Kingston-road, Romford, to Dr. and Mrs. A. J. Williamson—a son.

MARRIAGES.

WESTBY—MCMULLEN.—On Feb. 16th, 1920, at St. Ann's Church, Dublin, by Rev. B. W. Keymer, C.F., R.A.F., assisted by the Rev. Canon Day, Vicar, John Thorp Westby, M.B., B.Ch. (T.C.D.), only son of the late Dr. A. J. Westby and Mrs. Westby, 32, Waterloo-road, Dublin, to Marjorie McMullen, L.R.C.P. & S.I., younger daughter of the late Robert B. McMullen and Mrs. McMullen, 2, Arranmore-road, Herbert Park, Dublin.

DEATHS.

ADCOCK.—On Feb. 20th, at Purbeck House, Weymouth, Brigade Surgeon John Adcock, Army Medical Service, aged 82 years.
FERGUSSON.—On Feb. 21st, at the Hydropathic Establishment, Great Malvern, John Campbell Fergusson, M.D., L.R.C.P. & S. Edin., L.R.F.P.S. Glasg., in his 85th year.
WHIPPLE.—On Feb. 20th, at Redcliffe-square, South Kensington, Lieutenant-Colonel John Henry Connell Whipple, M.D., A.M.S. (retd.), late Coldstream Guards, in his 79th year.
WORNUM.—On Feb. 18th, at Hillside, Farningham, Kent, George Porter Wornum, M.R.C.S., aged 62 years.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE INSANITY OF JOHN BUNYAN.[1]

BY THE REV. E. G. O'DONOGHUE,
CHAPLAIN OF BETHLEM ROYAL HOSPITAL.

So far as I can ascertain, nobody has hitherto realised that Bunyan was insane, in the technical and medical sense of the word, for three or four years of his life—say between 1650 and 1653. His book, "Grace Abounding," contains particulars sufficient to fill up the certificate and case-book of the mental specialist. Premonitory symptoms of the latent disease manifested themselves from time to time, and in 1651 the "great storm came stealing" upon him, and "floods of blasphemies," unprovoked and unexpected, overwhelmed his mind. The "unpardonable sin" began to have a horrible fascination for him. He "desired to commit it," and soon came to believe that he had committed it. Sometimes he "felt the tempter pull his clothes"; sometimes the Devil seemed to "take the form of a bull, bush, or besom," inviting him to fall down and worship him. Then for a whole year one sentence iterated and reiterated itself on the anvil of his diseased brain, "Sell Christ!" "Sell Christ!" "Sell Christ!"

For two whole years at least, as I understand the narrative, the "masterless hounds of hell ran over his soul, roaring and bellowing." He had, at last, committed the unpardonable sin; he was now racked day and night with the anticipation of descending before another day had passed into eternal torment. Like other victims of religious melancholia, he added to his physical agitation and mental agony by ransacking the Scriptures to justify the appalling sentence of everlasting damnation pronounced against his soul!

Such was the fiery trial which made John Bunyan what he came to be. Out of it came the iron—dug in darkness, heated red hot in the furnace of his afflictions, tempered in the bath of his own tears—which went to the building up of his greatest work, the "Pilgrim's Progress."

The armour of Christian is dinted with the marks of his terrible conflict with Apollyon. But it was John Bunyan himself who could find no firm ground under his feet in the slough of religious despondency. It was he who had been in the iron cage when he thought that he had "sold Christ," and "committed the sin against the Holy Ghost." John Bunyan, and none but he, had been through the Valley of the Shadow of Death before he wrote about it; in it he had uttered the grievous blasphemies which the fiend seemed to have put into his mouth; on his pilgrimage through it "clouds of confusion" had sometimes settled on his head, sometimes "doleful voices" moaned in his ear, or he heard a "company of fiends rushing and yelling" around him.

Christian was not the only pilgrim who heard "Bedlam" shouted after him in Vanity Fair.

THE NEW PHYSICAL EDUCATION.

IN THE LANCET of Jan. 31st we published an address on physical training delivered before the Royal Society of Medicine by Surgeon Commander K. Digby Bell, of the Royal Naval School of Physical and Recreational Training, Portsmouth. In the course of this address he quoted a scheme elaborated by Commander B. T. Coote, in which activity, energy, and character were developed by physical, recreational, and moral training. On Feb. 19th, at the Royal Sanitary Institute, under the auspices of the Child Study Society, Commander Coote himself delivered a lecture on Physical Education and its Relation to National Ideals, in which he showed how the system could be applied to the promotion of the health and character of a people. Physical education, he said, was a science not sufficiently developed or understood in this country, and, although school prospectuses called attention to the teaching of physical culture and drill, parents had not troubled to find out in what its virtue consisted. A boy might bring home a silver cup—and incidentally a spinal curvature—but nothing had been done to study his physical well-being from a scientific point of view. Commander Coote showed on the screen some of the evil effects of the uncontrolled physical exercises encouraged in some schools—boys with round shoulders, hollow spines, flat chests, and pot-bellies. It was the duty of the physical trainer to prevent these deformities. By means of diagrams drawn from individual cases he showed the evil effects of certain collars in preventing head and chest movements, the tendency to curved spine as the result of carrying

[1] Being a portion of a paper read before the Royal Society of Arts on Feb. 13th.

books under one arm with the opposite hand in the pocket, and various unhygienic reading, writing, and sleeping postures. These indicated the need for continuous physical training. Any existing weakness should be corrected at once, lest it should increase later and lead to serious trouble. Describing the ingenious and effective method of teaching swimming in the navy, he said that the real work was done on dry land. The positions assumed in the breast stroke were analysed into four collective movements, and these were shown in diagrams at the end of a large hall. The men laid themselves on a sort of bench, and with their eyes fixed on the diagrams carried out the movements until perfect. They were then given a life-saving belt so constructed that when in the water the swimmer assumed the proper position. Many men could swim ten lengths of the bath at their first attempt with this belt, which is removed as soon as knowledge and confidence have been attained. The number of lessons necessary average from eight to nine.

Some of the physical exercises used at school were destructive in their effects—he instanced certain uses of the parallel bars—but with the help of the medical profession this fact could be demonstrated to those in charge, and the exercises forbidden. This country had the reputation of being the most sporting nation as far as games were concerned, but the majority of the people did not play games at all. If we were going to use recreation to develop energy some form of recreation must be found that would appeal to the majority. Fortunately, some 300 games were capable of being utilised for this purpose. He hoped, however, that recreational training would not be the thin end of the wedge for doing away with physical training. Games had necessarily a constructive value. In order to develop character in the pupil the physical educationalist must study the mind. Appeal to the moral side of the boy's character could be made, and instruction with regard to the abuse of his body could be given openly and effectively. Physical training, as he understood it, was a science and a part of preventive medicine. If we treated physical education in such a way as to be of value throughout the country much could be done to prevent industrial unrest.

COLONIAL HEALTH REPORTS.

Bermuda.

ACCORDING to a report prepared by Mr. W. B. Jackson, Colonial Secretary, the resident population, exclusive of the naval and military establishment, has been slowly increasing during the last decade. At the Census of 1911 it was estimated at 18,994. On Jan. 1st, 1919, it was computed at 21,840—7433 white and 14,397 coloured.

The birth-rate during 1918 was 27·10 per 1000—21·63 among the white population and 29·93 among the coloured. The illegitimacy rate was 2·3 per 100 births among whites and 18·6 per cent. among coloured persons. The death-rate of 14·37 per 1000 among whites and 24·10 per 1000 among the coloured population was higher than usual, being affected by an outbreak of Spanish influenza in September, which was responsible for about 125 deaths amongst about 5000 cases. There has been no recrudescence since the outbreak. The great majority of deaths from influenza occurred among the coloured population and were attributable in some cases to failure on the part of the patients to observe proper precautions, and in others to enfeebled physical condition, such as pre-existing tuberculous tendencies. It is many years since the islands have been visited by an epidemic of so severe a character; and the unusually favourable health conditions normally prevailing intensified the impression caused. The colony is blessed with natural conditions of climate and geographical position which should make it one of the healthiest spots in the world. Except for a period of about three months during the summer, when the atmosphere is especially humid and conditions somewhat enervating, the climate is remarkably agreeable and mild. Free from extremes either of heat or cold, and situated in mid-ocean with no land nearer than 500 miles, the islands offer the conditions of air and atmosphere prevailing on a very large ship in temperate latitudes, with none of the discomforts attendant on a sea-voyage. Their freedom from serious infections is due largely to these conditions. The rainfall during 1918 was 64·16 inches, being some 8 inches above the average of the preceding nine years. Rain fell on 155 days, being most frequent and heaviest in November and April. The highest temperature recorded was 88·8° F. on August 14th, and the lowest 48° on Feb. 6th. Mean relative humidity was 88°.

British Guiana.

The Registrar-General's estimate of the population of the colony on Dec. 31st, 1918, was 310,972 (161,693 males and 149,279 females).

The birth-rate for 1918 was 25·1 per 1000, compared with a mean rate for the previous five years of 31·0 per 1000. Of the births registered 3401, or 43·7 per cent., were legitimate, and 4390, or 56·3 per cent., illegitimate. The birth-rates of the several races representing the community were, per 1000 of the estimated population, as follows: Portuguese, 23·1; Europeans other than Portuguese, 12·2; East Indians, 23·3; Chinese, 31·7; blacks, 25·2; mixed races, 27·0. The death-rate was 40·6 per 1000, as against 30·4 in 1917 and 27·1 in 1916. The death-rate of the various races was: Portuguese, 35·3 per 1000; Europeans other than Portuguese, 13·5; East Indians, 49·4; Chinese, 28·2; blacks, 35·7; mixed races, 25·0. Enteric fever is a notifiable disease, and in 1918 637 cases were notified with 129 deaths. Anti-malaria and anti-mosquito measures are being generally and gradually enforced, with visible signs of success. Ankylostomiasis, which has engaged the attention of the Medical Department for several years, has considerably decreased on the sugar estates; this is attributed to improved sanitary measures and the erection of latrines. There are five public hospitals in the principal centres of population, and the outlying districts are served by dispensary hospitals and dispensaries. The immigration law also requires the maintenance of hospitals on every plantation on which there are indentured East Indian labourers, and those institutions are available for the treatment of emergency and pauper cases from the general community. There were 479 patients in the public hospitals at the beginning of 1918, and 15,890 were admitted during the year; the deaths numbered 2072. Outdoor treatment was given to 52,954 persons. At the Leper Asylum there were when the year began 212 males and 82 females. During the year 79 were admitted.

East Africa Protectorate.

The report respecting the affairs of the Protectorate for the year 1917–18 estimates the total population at 2,651,771, made up of 5362 Europeans, 14,693 Indians, 2126 Goans, 7358 Arabs, 69 of other races, and 2,622,163 natives.

The general health of the country was exceptionally good. Malaria, as usual, was common everywhere, and few districts escaped dysentery and the occurrence of sporadic cases of smallpox. The desert areas suffered notably from beri-beri. A small epidemic of influenza was reported from Meru. Plague reappeared in Mombasa on April 25th, 1917. Further cases were discovered on May 19th, and it appeared at intervals in various localities subsequent to that date. Of the 101 cases recorded, 84, with 78 deaths, were among the uninoculated, and 17 cases, with 10 deaths, among those who had received prophylactic protection. In Nairobi the case-incidence was somewhat higher. The disease originated in the Indian bazaar, and spread rapidly to other quarters of the town and to the native villages on its perimeter. 20,776 rats were caught, of which 37 were found to be infected. The total number of inoculations against plague was 100,214, as against 18,273 in 1916 and 6878 in 1915. 796 cases of cerebro-spinal meningitis, with 615 deaths, were reported from 12 districts extending from the coast to Lake Victoria. This is a considerable increase over every year since 1913. 2613 cases of dysentery were observed, with 160 deaths. In addition to these the medical officers of health have reported 2559 deaths from dysentery and diarrhœa in the townships of Mombasa, Nairobi, and Kisumu.

A NURSES' CLUB AT BRIGHTON.

"THE first of its kind to be established in the United Kingdom" was a remark made by Sir Arthur Stanley at Brighton on Feb. 21st, when he opened, at 45, Marine Parade, a residential club for nurses, in connexion with the Brighton and Hove Centre of the College of Nursing. Edinburgh and Dublin are copying the example of Brighton, and Sir Arthur Stanley expressed the hope that ere long he would be able to say the same of London. The Brighton Club permits of accommodation for 15 nurses, and the premises have been loaned free until 1927 by the owner, Mr. C. R. Scrase Dickins. Dr. E. Hobhouse (one of the senior physicians), Miss Kathleen Scott (matron), and Miss Latham (under matron), of the Royal Sussex County Hospital, hold the respective offices of chairman of the finance committee, chairman of the executive committee, and honorary secretary and treasurer.

SMELLS AT LOWESTOFT.

PROVISION is made under the Public Health Act of 1875 to deal with objectionable smells or effluvia arising from the process of manufacture. The Lowestoft Fish Meal and Cake Company was recently prosecuted under Section 114 of this Act for carrying on the manufacture of meal and manure from fish offal in such a way as to cause effluvia which were a nuisance to some of the inhabitants of the town. In November, 1918, this company applied for permission to establish a factory under Section 112 of the Public Health Act, which provided that if an offensive smell occurred heavy penalties would ensue. Permission was not granted, in spite of which the factory was opened without consent in July, 1919. The corporation recently received a memorial complaining of the nuisance from 34 residents living near the factory, in consequence of which the sanitary authority brought this prosecution.

Evidence was given before the magistrates by the sanitary inspector for the borough, who stated that the fumes which came from the factory were of a sickly nature and filled the atmosphere. He said he was not satisfied with the way in which the plant was worked inside the factory, and thought the nuisance could be abated if the plant was altered and the fire allowed to consume the fumes. Dr. A. Marshall, medical officer of health, said that in his opinion there were good grounds for the complaint, as the smell was unbearable. He considered that if the fumes were passed through a condenser and the chimney heightened to 60 feet the nuisance would probably cease. Several residents gave evidence as to the disagreeable nature of the effluvia from the manufacture. The firm stated, through their solicitor, that they had no wish to cause a nuisance, and asked the magistrates to adjourn the case in order that various alterations could be made. They suggested that a 2000-gallon tank should be attached to the condenser and the fumes passed through the tank and sprayed. This suggestion was agreed to.

HOSPITALISATION OF INFLUENZA.

THERE is a growing feeling in America against the removal from their homes of patients suffering from influenza. A recent bulletin of the Chicago School of Sanitary Instruction contains a manifesto by Dr. J. D. Robertson to the physicians of Chicago in which he says:—

> I am convinced that in the present outbreak of influenza the wise and proper thing to do is to insist upon home treatment and care of influenza cases, rather than hospitalisation. Only such cases should be hospitalised as cannot possibly be taken care of in the home.
>
> There is a large element of risk in taking a patient with a temperature from a warm bed and room into an unheated ambulance and transporting such patient several miles to a hospital, where probably another long wait must be endured before finally being comfortably provided for. This procedure greatly increases the chances of pneumonia complications.
>
> I think it will be found that most influenza cases can be taken care of in their homes with much better chances of recovery than would be afforded by removal to hospitals. The Department is doing all it can to supply nurses to families where there is the most urgent need. I have had many requests for nurses in homes where there were well members of the family and probably one or more servants who could take care of the sick, and in such cases we have declined to furnish nurses in order to husband our supply for cases where those who are sick are unable to get nursing care of any kind.

Dr. Robertson concludes by urging the Chicago physicians to coöperate with the Health Department in advising home care of influenza patients in all cases where it is possible.

SUMMER-TIME, 1920.

SUMMER-TIME will commence this year on Sunday, March 28th, and end on Monday, Sept. 27th.

THE RANGOON BEAN.

IN the village of Lankwitz (Brandenburg) an epidemic of diarrhœa and vomiting has occurred with great physical depression following, ascribed to the use as a food of *Phaseolus lunatus*, known in commerce as the Rangoon bean, and now entering Germany in large quantity. Professor L. Lewin, of Berlin, attributes the symptoms to HCN poisoning. In France, it is stated, the import of these beans is only allowed when 100 g. yield less than 20 mg. of HCN.

THE DE-DOMESTICATION OF THE RAT.

IN the course of a lecture on Tropical and Subtropical Diseases delivered recently before the Royal Colonial Institute Dr. Louis Sambon stated that experience has shown again and again that rat extermination is practically impossible. He proceeded: "It may have been otherwise at the time when, according to that distinguished Spanish canonist Azpilcueta of Navarre, rats exorcised and ordered to depart for foreign countries, would obediently march to the coast in large bodies and thence swim off in search of desert islands where they could enjoy life without annoyance to man. Unfortunately, rats can no longer be exorcised or rhymed out of existence. In India rats are as plentiful as ever, notwithstanding the enormous destruction carried out since plague broke out. No better results were obtained in Japan where the campaign was carried out with a thoroughness characteristic of the Nippon islanders. The slaughter only renders conditions more favourable for the multiplication of the survivors. The increased mortality is met by increased birth-rate, and, as every one knows, the rat's breeding powers are incredible. Five to 10 litters in a year, 6 to 20 young in a litter, and the young able to breed in less than three months! Besides, what would be the use of destroying rats unless we made adequate provision to prevent more rats from landing? Every ship brings rats, especially grain ships, a thousand and even 1700 rat carcasses have been counted after fumigation of a single ship and thousands of ships reach our ports. What we can and should do is to render our wharves, quays, markets, store-houses, and other public buildings rat-proof. The rat must be entirely excluded from occupied buildings. He must be de-domesticated, if I may use the expression—he must be built out of existence—as Surgeon-General Blue tersely puts it. Attracted by food and cover, he has overcome every fear of man and imposed himself upon us as an effronted and dangerous commensal. The proper storage of food, the immediate removal and burning of all food-wastes, garbage, and rubbish, the destruction of places in which he may find harbourage, and the contrivance of architectural modifications apt to cut off his approach, the liberal use of concrete, wire netting, and sheet metal will certainly discourage him."

Dr. Sambon points out that the agency of the rat in the dissemination of plague was well known in ancient times. Our ancestors carefully protected and, when possible, domesticated the natural enemies of the rat and even deified some of the more useful ones, as the cat, the kestrel, and the cobra. They made special use of rat-eating species of snakes, kept great numbers of these harmless snakes in specially constructed pits in their medical temples, and sent them to be liberated wherever the disease had broken out. Thus in the year 293 B.C., Rome being ravaged by the plague, the Tribune Quintus Ugulgius went to Epidaurus at the head of a commission to ask the priest-physicians of the famous Asklepion temple what should be done to check the pestilence that was devastating the city. They brought back with them rat-eating snakes, and these soon put an end to the disease; after a time the snakes died out, but the people long continued to paint their effigies on the walls of the lararium in token of gratitude, and paid them the tribute due to protecting household gods.

MILK OF GOOD QUALITY.

IN the case of a prosecution for selling milk deficient in milk fat, which took place recently in the Isle of Wight, a novel and rather ingenious point was raised, owing to the police sergeant who purchased the samples analysed having asked the defendant for "a pint of new milk of good quality." It was contended by the prosecution that this should deprive the defendant of the defence, established by the case of Hunt *v.* Richardson, that the milk was sold by him as it came from the cow. After considerable discussion upon questions arising out of the analysis, the bench were satisfied that the milk sold was deficient in milk fat to such an extent that the defendant should be convicted, and further held that it had not been proved by the defence to have been sold as it came from the cow. In these circumstances they did not go into the other point referred to. It seems likely that if they had done so conviction would have followed, whether the milk had been proved to have been sold as it came from the cow or not. Milk not up to the standard laid down for new milk could hardly be deemed to be "of good quality." Whether straight from the cow or not it would not be of the nature and quality demanded. Unfortunately, however, the ordinary housewife or purchaser is not likely to specify "good quality" when buying milk, and the farmer or dairyman of whom such a demand was made, either by a private customer, or more particularly by an official, would be likely to scent a trap. He did not apparently do so in the case under discussion, but it would be a natural and reasonable reply for him to make if he said, "It is new milk," or "It is milk as it came from the cow"; in the subsequent event of analysis being against him the defence that the milk, whatever its quality, had not been tampered with would be open to him.

THE SMALL-POX MENACE.

To the Editor of THE LANCET.

SIR,—With reference to your annotation in THE LANCET of Feb. 7th with the above title, I note that you say there were 63 cases in England and Wales for the year 1918. According to the analysis of sickness statistics for London for the year 1918 (THE LANCET, April 12th, 1919) there were 35 notified cases in London. That makes over 50 per cent. of the cases occurred in London. In a letter from Dr. A. F. Cameron in THE LANCET of June 22nd, 1918, on small-pox in London he stated that for the first six months of 1918 there were 41 cases in London. I suppose these varying returns can be reconciled. For 1919 the total number of cases in London, according to the monthly analyses published in THE LANCET, was 26 (January, 7; March, 7; April, 2; May, 3; June, 2; and July, 5). In the first half of the year 1919, according to your latest annotation, there were 208 small-pox cases in England and Wales, so that it is obvious that in 1919 London had nothing like 50 per cent. of the cases, which is good for London. Dr. Cameron in his letter contended that the maximum intensity of small-pox in London was every nine years from 1884—that is, 1884, 1893, 1902, 1911—and added, "It seems reasonable to expect that in 1920 another maximum will be recorded." It will be interesting to learn later whether the expectation is fulfilled.

I am, Sir, yours faithfully,

London, Feb. 10th, 1920. ZIGZAG.

H. P. U. (*U.S.A.*).—Under the late Turkish administration doctors possessing foreign diplomas, who were not Turkish subjects, had to pass a viva voce examination at Constantinople, conducted in French or Turkish, in order to obtain the Government diploma entitling them to practise in Palestine or any other part of Turkey. Presumably there will now be some local substitute for this obligation, although nothing appears at present to have been settled. Openings for practice in Palestine are limited. Jerusalem is overdone with medical institutions, and nose and throat specialists were already practising in Jaffa and Jerusalem before the war. An American medical man might work up a small consulting practice in such a growing centre as Haifa. In the future, as in the past, the main part of the medical work will be done by Jewish doctors ministering to their own people.